

A NEW
ORCHARD
AND
GARDEN:
OR,

The best way for Planting, Grafting, and to make any
Ground good, for a rich Orchard: Particularly in the North,
and Generally for the whole Common-Wealth, as in Nature, Reason,
Situation, and all Probability, may and doth appear.

With the Country Houſ-wifes Garden for Herbs of Common uſe:
Their Virtues, Seasons, Profits, Ornaments, variety of Known Models for
Trees, and Plots, for the best ordering of Grounds and Walks.

AS ALSO

The Husbandry of Bees, with their ſeveral Uſes and Annoyances:
*All being the experience of Forty and eight yeeres labour, and now the third
time corrected and much enlarged, by William Lawſon.*

Whereunto is newly added the Art of Propagating Plants; with the true
Ordering of all manner of Fruits, in their gathering: Carrying
home, and Preservation.



Still and patient, bring fruitful gains.

Nemo sibi melius.

London, Printed by William Wilson, for George Sawbridge, at the Bible
on Ludgate-Hill, neere Fleet-Bridge. 1669.

O R C H A R D

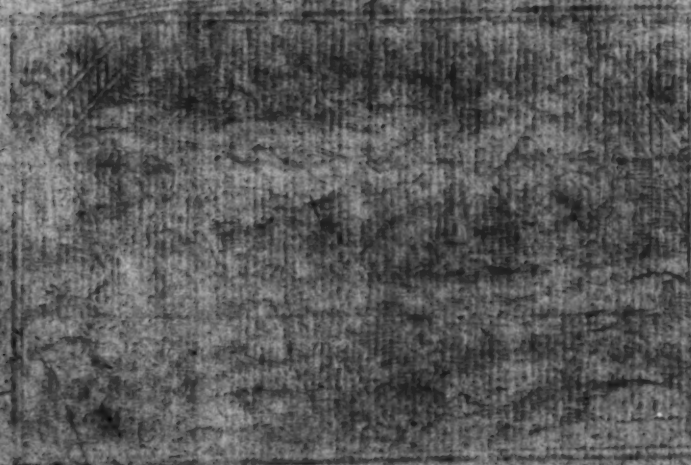
G A R D E N

The best way for planting, grafting, and to increase
the fruit of the trees, and to make them
grow in the best manner, with a full
description of the best sorts of fruit
trees, and the best way to plant them.

By J. C. COOPER, Esq.
of the Middle Temple, Barrister at Law.
LONDON: Printed by J. B. COOPER, at the
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1750.

Price 1s. 6d.





To the Right Worshipsfull

Sir **HENRY BELLOSES,**

Knight and Baronet

Worship Sir,

When in many years by long experience
I had furnished this my Northerne
Orchard and Country Garden with
needfull Plants and usefull hearbs,

I did impart the view thereof to my Friends,
who resorted to me to confer in matters of
that nature; they did see it, and seeing it, de-
sired it; and I must not deny now the publi-
shing of it, (which then I allotted to my pri-
vate delight) for the publick profit of others.
Wherefore though I could plead Custome, the
ordinary excuse of all writers, to chuse a Pa-
tron and Protector of their works, and so
shroud my self from scandall under your ho-

The Epistle Dedicatory.

nourable favour; yet have I certain reasons to
excuse this my presumption. First, because
conscience you have vouchsafed me. Secondly,
your delightful skill in matters of this nature.
Thirdly, the profit which I received from your
learned discourse of *Protestants*. Fourthly, your
animating and assisting of others to such indea-
vours. Last of all, the rare work of your own in
this kind. All which to publish under your pro-
tection, I have adventured as you see. Vouch-
safe it therefore entertainment, I pray you, and
I hope you shall find it not the unprofitablest
servant of your leisure. For when your serious
employments are over-passed, it may interpose
some commodity, and raise you contentment
out of variety.

Your Worships

most bounden

WILLIAM LAMSON

THE PREFACE,

To all well minded.

WHAT her first original out of Experience, which therefore is called The School Mistris of Soote, because she teaches infallibly, and plainly, is drawing her knowledge out of the cause of Nature, (which is her faith in the general) by the senses, feelingly apprehending, and comparing, (with the help of the Memory) the Works of Nature; and as in all other things naturall, so especially in Trees. For what is Art more than a provident and skillfull Correction of the Faults of Nature in particular works, apprehended by the Senses? As when good ground naturall brings forth Thistles, trees stand too thick, or too thin, or disorderly, or (without dressing) put forth unprofitable Sackers, and such like; all which and a thousand more, are reformed, being taught by Experience; and therefore must we own that in the first, that stands upon Experimentall Rules, is directed by the Rule of Reason (not consent) of all other Rules the first.

Whereupon have I, of my meere and sole Experience, without respect to any former written Treatise, gathered these Rules, and set them down in writing, not daring to hide the least talent given me of my Lord and Master in Heaven. Neither is this injurious to any, though it differ from the Common opinion in divers points; to make it knowne to others what good I have found out in this faculty by long tryall and experience. I confesse freely my want of curious skill in the art of planting; and I admire and praise Plinie, Aristotle, Virgil, Cicero, and

The Preface.

many others, for wit and judgment in this kind, and leave them to those whose business and talents it concerns.

I do not attempt to praise, but to commend the praises of this art; nor some, but not a few, even of the best, but accounted it a chief part of earthly happiness, to have fair and fruitful Orchards, as in Hesperia and Thessaly; but all with one consent agree, that it is a chief part of Husbandry, (as Tully in Seneca's time) and Husbandry maintains the world: how ancient, how profitable, how pleasant it is; how many secrets of nature it does contain, how loved, and much gratified on the best plants, under the sun. This business alone by many, I only aim at the common good. I desire to be a common concern, as planting and grafting with the roots upward, imitating Roxelus Thore, and such like: Although I have heard of divers, who have some, and want of more.

The Stationer hath, as being much acquainted with me, to further the common good, bestowed much cost, and care in having the Roots and Models of the best Authors put in great variety, that nothing might be any way wanting to satisfy the curious desire of those that would make use of this Book.

And I seem a plain and sure way of planting, which I have found good by 48 years (and more) experience in the North part of England. I pre-judicate and entice none, wishing yet all to abstain from maligning that good (to them unknown) which is well intended. Farewell.

Thine for thy good,

THE

THE BEST, SVRE AND READIEST WAY TO MAKE A

Good Orchard and Garden.

CHAP. I.

Of the Gardener and his Wages.



WHOEVER desireth to have a
pleasant and profitable Orchard, must
be able to provide himselfe a fruitfull
Religious, Honest, Skillfull in the faculty,
and therewithall patient. By Religious
I meane (because many think Religion was
a Fashion or Custom, not good to Church)
maintaining, and cherishing things reli-
gious: as Schools of Learning, Churches, Tythes, Church goods
and rights, and above all things Gods word, and the Preachers
thereof, so much as he is able, practising every one, comfortable
conference, mutual instruction to edification, and other works of
charity and all sort of a good conscience.

Religious.

How fit in a Gardener, will grace your Garden, and all your
house, and help to stay unbidden Serving men, from offering any
none, nor calling your Name into Question by disobedience, nor
infesting your family by evil counsel or example. For when a pop-
pling is infectious in popery and lechery, he will not punish
your peccat, nor hinder your pleasure.

Honest.

Concerning his skill, he must not be a Scollard, to make a show
or take in hand that which he cannot perform, especially in so
weighty a thing as an Orchard: than the which there can be no
human thing more excellenc, either for pleasure or profit, as shall
(God willing) be proved in the treatise following. And what an
hindrance shall it be, not onely to the owner, but to the com-
mon

Skillfull.

mon

men good, that the unspeakable benefit of many hundred yeares
shall be made by the excellent attorne of mankind, of Asbestos.

Painfall.

The Gardener had not need to be an idle or idle Lubber, for
for your Orchard, being a matter of such moment, will not prosper,
there shall ever be something to do. Weeds are alwayes
growing, the great mother of all living Creatures, the Earth, is
full of seeds, in her bowels, and any stirring gives them heat of
Sunne, and being laid out day they grow. No Moles work dally,
though not alwayes alike: Winter, hearbs at all times will grow
(except in extreame frost). In winter your trees and hearbs would
be lightened of Snow, and your allies cleansed: drifts of Snow
will let Deer, Hares, and Conies, and other noysome beasts o-
ver your walls and hedges into your Orchard. When Summer
clothes your borders with green and peckled leaves, your
Gardener must dress his hedges, and another works: wash his
Bees and hive them: Distill his Roses and other Hearbs. Now
begin Summer fruits to ripe, and crise your hand to pull them.
For have a Garden, as he must needs to keep, you must needs al-
low him good house, and his labour which are evill, for no
one man is sufficient for these things.

Wage.

When a Gardener will conscientiously, quietly and patiently,
travail in your Orchard, God shall Crown the labour of his
Hands with joyfulness, and make the clouds drop fatness upon
your weeds, will provide your love, and earn his wages, and
his wages in his place. The house being served, when from
superfluity of hearbs, and flowers, seeds, grasse, Sere, and berries
of such of that fruit which your bountifull hand shall reward
him, shall, with much increase his wages, and the profit of your
house will pay your back wages. O you that are not able, nor
willing to hire a Gardener, keep your
promises to yourself, for then you must take all the paine, and for
that purpose (if you want this faculty) to instruct you, have I in-
structed these labours, and gathered these Rules, but chiefly re-
flecting my Counties good.

CHAR.

C H A P. II.

Of the Soyle.

Fruit-trees most common and manest for our Northern Count-
 ries: (as Apples, Pears, Cherries, Filbirds, Red and White,
 Plummies, Damsons, Bullis, for we meddle not with Apricocks
 nor Peaches, nor scarcely with Quinces, which will not like in
 our cold parts, unless they be helped with some assist of the Sun
 or other like means, nor with better bearing barries, as Barb-
 riers, Goose-barries or Grofers, Rasse-barries, and such like;
 though the Barbary be wholesome, and the Tree may be made
 great; do require (as all other Trees do) a black, fat, mellow,
 clean and well tempered soyle, wherein they may gather plenty
 of good sap. Some think the Harts mouth have a shelly root,
 and the fallow, and do dot a waterish soyle. The soyle is made
 better by delving and other means, being well manured, and the
 wildness of the earth and weeds (for every thing which is to man
 and serving his use (not well ordered) is by nature full of the
 curse, is killed by frost and drought, by fallowing and laying on
 heaps, and if it be wild earth, with burning. If your ground be barren (the
 same are forced to make an Or-
 chard of barren ground) make a pie three quarters deep, and two
 yards wide, and round in such places where you would set your
 trees; and fill the same with fat, pure, and mellow earth, and
 whole foot higher than your soyle, and therein fit your plants.
 For who is able to manure a whole Orchard plot, if it be barren?
 But if you determine to manure the whole site, this is your way;
 dig a trench half a yard deep, all along the lower (it shall be a
 lower side of your Orchard plot, casting up all the earth on the
 inner side and fill the same with good, short, hot and tender manure,
 and make such another trench, and fill the same as the first, and so
 the third, and so throughout your ground; and by this means
 your plot shall be fertile for your life. But be sure you fit your
 Trees richer in dung, nor barren earth.

Kinds of trees

Soyle.

Barren earth.

Circle

Your ground must be plain, that it may receive, and keep Plain,
 moisture, not only the rain falling thereto, but also water cast
 upon it, or descending from higher ground by sluices, Conduits,

For I account moisture in summer very needfull in the soyle of trees, and drought in winter, provided that the ground be neither boggy, nor the inundation be past 24 hours at any time, and but twice in the whole Summer and so oft in the Winter. Therefore if you please be in a doubt, or have a necessity, make trenches by degrees, allyes, walks, and such like, so as the water may be Rayed from passages; and if too much water be any hindrance to your walks (for dry walks do well become an Orchard, and an Orchard does) rake your walks with earth first, and then with straw or hay or well-mannered lilly, with gravel. In Summer you need not shake too much water from leaves, either to hurt the health of your body, or your trees. And if ever flowing mofst you, after one day, it hold it thus by deep trenching.

Some for this purpose dig the soyle of their Orchards, to receive mofst, when I cannot approve for the rooey with digging, as other times have well especially being digged by some unskillfull persons; for the Garden cannot do all himself; and moreover, the Rains of Angels and Peas being laid one day while the heat of the Sun, will put forth such, which are a great hindrance, and sometimes with evil breeding, the destruction of trees, unless the delving be very shallow, and the ground laid very level again. Cherries and Plums, without delving, will hardly or never (after twenty years) be kept from such sickness, nor Apples being a boy, and a man of old, and a woman of old.

Graft.

in Graft also is thought needfull for moisture, so you let it not reach the Rood of your tree; for it will breed mofst, and the head of your tree near the earth, would have the comfort of the Sun and air.

Some take their ground to be too mofst when it is not so, by reason of water standing thereon; for except in some marshes, plains, and common over flowings, no-where can be too mofst. Sandy and fix earth will hold all water falling by rakes; indeed a stiff clay will not receive the water, and therefore if it be graffe or plain, especially hollow, the water will abide and it will seem waterish, when the fault is in the want of manuring, and other good dressing.

This plainness which we will have had need be naturall, because so force any unring ground, will destroy the familie; for every

foyl

soyl hath his crust next day : where the roots and hearts put their roots, and whence they draw their sap, which is the best of the soyl, and made fertile with heat and cold, moisture and drought, and under which, by reason of the want of the said moisture by the said four qualities, no tree nor herb (in a winter) will or can put root : as may be seen, if in digging your grounds, you take the wood of most growth, in grass or docks (which will grow though they lye upon the earth bare) put away them under the crust, and they will sooner dye and perish, and become manure to your ground. This crust is not past 15 or 18 inches deep in good ground, or other grounds less. Hence appears the fault of forced plains, viz. your crust in the lower part is covered with the crust of the higher part, and both with the same earth : your heights having the crust taken away, are become more barren : so that either you must force a new crust, or have an evill soyl. And be sure you level before you plant, lest you be forced to remove, or hurt your plants by digging, and casting among their roots. Your ground must be cleared, as much as you may, of stones and gravel, walls, hedges, bushes, and other weeds.

Naturally plain.

Crust of the earth.

CHAP. III.

Of the Site.

There is no difference, that I find, between the necessity of a good soyl, and a good Site of an Orchard. For a good soyl (as is before described) cannot want a good Site, and if it doe, the fruit cannot be good : and a good site will much amend an evill soyl. The best site is in low grounds, and (if you can) near unto a River. High grounds are not naturally fit.

Low and near a River.

And if they have any fumes by man's hand, the very worst Airtime doth with it away. The wind ground in this case, as it is twice men in a common wealth the More will have more, and Once Poor, seldom or never Rich. The fumes will come and wash, and the wind will blow fumes from the heights to the hollows, where it will abide, and stink the earth, though it was barren before. Hence it is, that we have fumes any plain grounds and fume barren, and as seldom any heights naturally fertile. It is

highly, which itself is brought to low ground by the
 Runnels of water, neither did I ever know any raised ground in
 a low plain by a River side. The goodness of the English Heath
 or *Heathlands* in this sort, is well known to all that
 know the River *Humber*, & the high banks of their *Canals* there,
 the collection of them that have seen the low grounds in *Holland*
 and *England*. They are the best and most Countries in Europe for
 husbandry, not only because they lie so low. The world can
 not compare with them for fertility, so long as *Nature* shall over-
 flow the banks. So that a fair plain cannot be chosen for an
 Orchard, than a low plain by a River side. For besides the fertility
 which the water brings, if any cloudy mist or rain be falling,
 it continually falls down to, and follows the coast of the River.
 And where are we greater Trees of bulk and bough, than standing
 on the river side? If you ask why the plains in *Hol-
 land* and such Countries, are full of wood? I answer, that
 men and cattle that have pasture thence, from out of plains to
 void corners are better than trees. Neither are these places with
 our trees. Our old Fathers but will in low woods be decayed, &
 people in the room of trees multiplied. I have stood somewhat
 long in this point, because some do condemn a moist soil for fruit
 Trees.

Psal. 133.

Ezek. 37. 1.

Eccl. 30. 17.

Mr. Marston.

Winds.

Chap. 13.

A low ground is good to avoid the danger of winds, both for
 shading down your under-fruit Trees (the most that I know be-
 ing laden with wood for want of pruning, and growing high
 by the weakness of the North, and need be in some small
 danger of the South West, West and North-west winds, especi-
 ally in *September* and *March*, when the air is most temperate
 from extreme heat and cold, which are deadly enemies to green
 winds. When the wind is low. Or if you be forced
 to plant in a higher ground, be high and strong walls, hedges and
 trees, as Wall trees, Plant oaks, Oaks and Alders, placed in good
 order, as your fence for winds.

The focus of your Orchard being, defending thus your Or-
 chard, the Sun may convey a good quantity of heat to it.

Sun.

The Sun, in some sort, is the life of the world: It maketh
 the ground fruitful, and drives kindly with fertility, according to the
 Golden Terms, *Thine fruit thou, was before*. Therefore in the
 Country

Commonall secret approaching the Zodiack the Sams inclination, they have better, and sooner ripe fruits, than any that dwell in these frosty parts.

These privatest sort of our great abundance to plant Apricot-trees against cocks Cherries, and Peaches, by a wall; and withricks and other a wall.

aim to spread them upon; and fasten them to a wall, to have the benefit of the immediate reflex of the Sun, which is indispensable, for the having of full, good, and firm ripe fruit. But I often know, it is more harmful to the trees than the benefit they reap thereby; as not suffering a tree to live the sixth part of his age: it helps Gardeners to work. For first, the wall hinders the roots; because into a dry and hard wall of earth or stones a tree will not, nor cannot put any root to profit. Secondly it stops the passage of the sap, whereby the bark is wounded, and the wood and diseases grow, so that the tree becomes short of life. For as in the body of man, the leaning or lying on some member, whereby the course of blood is stoppt, makes that member as it were dead for the time, till the blood return to his course, and I think, if that stoppage should continue any time, the member will perish for want of blood. (For the life is in the blood) and so dangerous the folly; so the life of the tree, as the blood is to mans body; neither doth the tree in winter (as is supposed) want his sap, no more than mans body his blood, which in winter and time of sleep, flows slower: so that the dead time of winter, to a tree is but a night of rest: for the use at all times, even in winter, is nourish with the land growth as well as mans body. This thing could may well seeme like this say as hinder the proud course of the sap, but to think and suppose a time, that in calm and mild seasons, even in the depth of winter, if you mark it, you may easily perceive the sap to put out, and your trees to increase their buds which were formed in the Summer before, and may easily be discerned, for leaves fall not off, all they be thick of with the buds at buds, whereupon is made to puff, this trees nature of new fruit plentifully increases again, and will themselves easily be discerned against the nakedness of the bare spring.

And if any shall be so curious, that they will stop the sap, as to make them to kill the forward fruit in the bud, and then

times the tender leaves and buds, but not the tree. Wherefore
to secure it in pasture so long the sap. And where, or when
did you ever see a great tree packed on a wall? Nay, who did ever
know a tree so miserably false, come to age? I have heard of some
that out of their imaginary earnings, have planted such trees,
on the North side of the wall, to avoid drought; but the heat of
the Sun is as comfortable (which they should have regarded) as
the drought is harmful. And although water is a formal re-
medy against drought, yet want of Sun is no way to be helped.
Wherefore, to conclude this Chapter, let your ground lye so that
it may have the benefit of the South and west Sun, and so low
and close, that it may have moisture, and increase his fertility (for
trees are the greatest suckers and pillars of the earth) and (in
much as may be) free from great winds, which do hurt the yield.

CHAP. IV.

Of the Quality.

It would be thought what a benefit rich, hot earth is to
any particular sort of an Orchard, but also the common
wealth by fruits, as shall be shew'd in the sixth Chapter (God
willing); whereupon must needs follow, the greater the Orchard
is (being good and well kept) the better it is: for of good things,
being equally good, the bigger is the best. And it is well ap-
pear, that so ground is soon occupied; (as you see the Corn field)
yieldeth more gain to the possessor, and more labour (as to
fruits of the unprofitable places) craving for quantity, then a
good Orchard, (besides the rest in planting and dressing an
Orchard is not so much by far, as the labour and feeding of
your Corn field; nor for duration of time, as you see in the
the cradling of the one before the other.) Let me here say, my la-
bour or cost in this kind, can be truly or profitably bestowed, or
thought too much. And what other doing is a Vineyard, in those
Countries where Vines do thrive, than a large Orchard of
ever bearing fruit? or what difference is there in the joy of the
Grape and our Syck and Perry, but the goodness of the Soil,
and also where they grow, which maketh the one to be sweeter,
and so more pleasant than the other. Whatsoever can be said for

Orchard is
good as a
Corn field.

Compared
with a Vine-
yard.

of the Orchard bound. And we think they do preposterously that bestow most cost and labour, and more ground in and upon a Garden, than upon an Orchard, whence they reap and increase both more pleasure and more profit, by infinite degrees, and further, that a Garden never so full, and fast, and well kept, cannot compare with one both renewing of the earth and the herbs often. In the most extraordinary and a man where your Orchard well kept, shall have eleven hundred years as shall be showed Chap 14. In a large Orchard there is much labour saved, in fencing and otherwise: for three little Orchards of a few acres, being in a manner all out-sides, are so blasted and decayed, and commonly in keeping neglected, and require a great summe: whereas in a great Orchard, trees are a mutual fence one to another, and the keeping is regarded; and less fencing serves six acres together, than three in severall parcels.

Now what quantity of ground is meetest for an Orchard, can no man prescribe but that must be left to every man's own judgment, to be considered according to his ability and will, for other necessities besides fruit must be had, and some are more delighted with Orchards than others.

Let no man, having a fit plot, plead poverty in this case for an Orchard once planted, will maintain it self, and yield infinite room beside. And I am perswaded, that if men did know the right and best way of planting, dressing, and keeping trees, and felt the profit and pleasure thereof, both they that have no Orchards, would have them, and they that have Orchards would have them larger, yea fruit trees in their hedges, as in *Worcester-shire, &c.* And I think the want of planting is a great loss to our Common-wealth, and in particular, to the owners of Land, which Landlords themselves might easily amend, by granting longer time and better allowance to their Tenants, who have taken up this Proverb, *Reed and fir, Build and fir*: for they will build or plant for another mans profit. Or the Parliaments might injoyn every occupier of ground to plant and improve for so many acres of fruitful ground, so many fruit trees or kinds of trees for fruit. Thus much for quantity.

Compare
with a Garden

What quantity
of ground.

What is no
hindrance.

How Land-
Lords by their
Tenants may
make fruitful
Orchards
by England.

A. All these spaces
must be left
Trees, the Garden
and other Orna-
ments must stand
in spaces between
the trees, and in the
borders and fences.

B. Trees twenty
yards asunder.

C. Garden Knots

D. Kitchen Garden

E. Bridge.

F. Conduit.

G. Staires.

H. Walks set with
great wood thick.

I. Walks set with
great wood round
about your Orchard.

K. The Out fence

L. The Out fences
set with stone-hust.

M. Mount. To force
earth for a Mount
or such like, set it
round with quick
and lay boughes of
trees strangely in-
termingl'd the top
ward, with the
earth in the midde

N. Well house
O. Great Mount
for Park. To be
made of earth and
stone.

P. It is the River run
by your door, and
under your Mount
it will be pleasant.



CHAP. V.

Of the Form.

THe goodnesse of the soil and site, are necessary to the well-being of an Orchard simply; but the form is so far necessary, as the owner shall think meet. For that kind of form where-with every particular man is delighted, we leave it to himselfe, *Suum cuique pulchrum*. The form that men like in generall, is a square: for although roundnesse be *forma perfectissima*, yet that principle is good, where necessity by art doth not force some other form. If within one large square, the Gardiner shall make one round Labyrinth or Maze, with some kind of Berries, it will grace your form; so there be sufficient room left for walkes, so will four or more round knotes do; for it is to be noted, that the eye must be pleased with the form. I have seen squares rising by degrees, with 8 syrs from your house-ward, according to this form which I have, *Crassa quod aiunt Minerva*, with an unsteady hand, rough hewn: for in forming Country gardens, the better sort may use better forms, and more costly work. What is needfull more to be said, I referre all that (concerning the form) to the Chapter 17. of the Ornaments of an Orchard.

The usuall
form is a
square.

CHAP. VI.

Of fences.

ALL your labour past and to come about an Orchard is lost, unless you fence well: It shall grieve you much to see your young sexrubb loose at the Roots, the bark pild, the boughs and twigs cropt, your fruite stollne, your Trees broken, and your many years labours and hopes destroyed, for want of fences. A chief care must be had in this point: you must therefore plant in such a soile, where you may provide a convenient, strong, and durable fence. For you can possesse no goods, that have so many enemies as an Orchard; look Chapter 13. Fruits are so desirable, and desired of so many, (not in a manner of all) and yet few will be at cost, and take pains to provide them. Fence well therefore, let your plot be wholly in your owne power, that you

Effects of evill
fencing.

how to fence
an orchard.

make

Let the fence make all your fence your self : for neighbours fence is none at all, or very carelesse. Take heed of a door or window, (yea of a wall) of any other mane into your Orchard, yea, though it be nailed up, or the wall be high, for perhaps they will prove thieves.

Kinds of Fences, earthen walls.

All fences commonly are made of Earth, Stone, Brick, Wood, or both earth and wood. Dry wall of earth, and dry ditches are the worst fences five pales or rails, and do waste the sooth, unless they be well kept with Glaze and mortar, whereas at Michael tide it will be good to sow Wall-flowers, commonly called Bee-flowers, or winter Gilly-flowers, because they will grow (though among stones) and abide the strongest frost and draught, continually green and flowering even in winter, and have excellent smell, and acrimony, (that is, they will flower the first and the last of flowers) and are good for Bees. And your earthen wall is good for bees, dry and warm, but these fences are both uncomely, evill to repair, and onely for need, where stone or wood cannot be had. Whosoever makes such walls, must not pill the ground in the Orchard, for piling earth, nor make any pits or hollows, which are both uncomely and unprofitable : old dry earth mixt with sand is best for them. This kind of wall will soon decay by reason of the Trees which grow near it, for the roots and boughs of great Trees, will increase, undermine, and over-cum-fish walls, though they were of stone, as is apparent by Alders, Round-trees, Bort-trees, and such like, carried in the chat, or berry, by birds into stone walls.

Pale & Raile.

Fences of dead wood, as pales, will not last, neither will rails either last or make good fences.

Stone walls.

Stone walls, (where stone may be had) are the best of this sort, both for fencing, lasting, and shrouding of your young trees, but about this you must bestow much Paines and more cost, to have them handsome, high and durable.

Quick wood and Moats.

But of all others, in mine opinion, Quickwood and moats or ditches of water, where the ground is Levell, is the best fence. In unequal grounds, which will not keep water, there a double ditch may be cast, made straight and Levell on the top two yards broad for a pale wall, two or six feet higher than the sides, with a gutter on either side, two yards wide and four foot deep, with cut with three or four shells of thorn, and within with Cherries,

Plummes,

Plummes, Damsons, Bullis, Filberds, (for I love those trees better for their fruit, and as well for their form, as Privets,) for you may make them take any form. And in every corner, (and middle if you will) a mound would be Raised, whereabout the wood may clasp, powdered with wood-binde, which will make with dressing a faire, pleasant, profitable, and sure fence. But you must be sure that your quick thorns either grow wholly, or that there be a supply betimes, either planting new, or plashing the old where need is. And assure your self, that neither wood, stone, earth, nor water, can make so strong a fence, as this at seven years growth.

Moats, Fish-ponds, and (especially at one side a River) with Moats, is and without your fence, will afford you fish, fowls, and mofsture to your Trees; and pleasure also, if they be so great and deep that you may have Swans, and other water Birds, good for devouring of vermine, and boat for many good uses.

It shall hardly avails you to make any fence for your Orchard, if you be a niggard of your fruits. For as Liberality will save it best from noisome neighbours; (Liberality I say is the best fence) so Justice must restrain Rioters. Thus when your ground is tempered, squared, and fenced, it is time to provide for planting.

CHAP. VII.

Of Sins.

THere is not one point (in my Opinion) about an Orchard more to be regarded, than the choise getting and setting of good plants, either for readinesse of having good fruit, or for continuall lasting; for whosoever shall fail in the choice of good seed, or in getting, or gathering, or setting his plants, shall never have a good or lasting Orchard. And I take want of skill in this faculty, to be a chief hinderance to the most Orchards, and to many for having Orchards at all.

Some for Readinesse use slips, which seldom take Root, and Slips, if they do take, they cannot last, both because their Root having a maine wound will in short time decay the body of the Tree: and besides, that Roots being so weakly put, are soon nipt with drought or frost, I could never see (sightly) any slip, but of apples only, set for Trees.

Bur-knot.

A Bur-knot kindly taken from an Apple-tree, is much better and surer. You must cut him close at the Root end; an handfull under the knot, (some use in Summer about Lammas to circumscribe him and put earth to the knots with hay-Ropes, and in winter cut him off and set him: but this is curiosity needlesse, and danger with removing and drought) and cut away all his twigs save one, the most principall, which in setting you must leave above the earth, burying his trunk in the crust of the earth for his Root. It matters not much what part of the bough the twigs grow out of. If it grow out of, or neer the Root end, some say such an apple will have no core nor kernel. Or if it please the planter he may let his bough be crooked, and leave out his top end one foot, or somewhat more, wherein will be good grafting: if either you like not, or doubt the fruit of the bough, (for commonly your bur-knots are Summer fruit) or if you think he will not Recover his wound safely.

Usuall Sets.

The most usuall kind of Sets, are plants with Roots growing, of kernels of Apples, Pears, and Crabbs, or stones of Cherries, Plums, &c. removed out of a nursery, wood, or other Orchard, Into, and set, in your Orchard in due places; I grant this kind to be better than either of the other by much, as more sure and more durable. Herein you must note, that in Sets so removed, you get all the Roots you can, and without bruising of any, I utterly dislike the opinion of those great Gardeners, that following their books, would have the maine Roots cut away: for tops cannot grow without Roots. And because none can get all the Roots, and removal is an hinderance, you may not leave on all tops, when you set them: For there is a proportion betwixt the Top and Root of a Tree, even in the number, (at least in the growth) If the Roots be many, they will bring you many Tops, if they be not hindered. And if you use to flow or top your tree too much or too low, and leave no issue, or little for sap, (as is to be seen in your hedges) it will hinder the growth of Roots and boal, because such a kind of flowing is a kind of smothering or choking the sap. Great Wood, as Oak, Elm, Ash, &c. being continually kept down with sheer knife, ax, &c. neither boal nor Root will thrive, but as an hedge or bush. If you intend to graft in your sets, you may cut him closer with a greater wound, and neerer the earth with-

Maine Roots cut.

Grow Sets removed.

with in a foot or two, because the graft or grafts will cover his wound. If you like his fruit, and would have him to be a Tree of himselfe, be not so bold. This I can tell you, that though you do cut his top close, and leave nothing but his bulke, because his roots are few, if he be (but little) bigger than your thumb, (as I wish all plants removed to be) he will safely recover his wound within seven years, by good guidance, that is, if the next time of dressing, immediately above his uppermost sprig, you cut him off aslope cleanly, so that the sprig stand on the back side; (and if you can Northward, that the wound may have the benefit of the Sun) at the upper end of the wound; and let that sprig onely be the boal. And take this for a generall rule; Every young plant, if he thrive, will recover any wound above the earth, by good dressing, although it be to the one halfe, and to his very heart. This short cutting at the remove, saves your plants from wind, and needs the lesse or no staking: I commend not lying or leaning of Trees against holds or stays; for it breeds obstruction of sap, and wounds incurable. All removing of Trees as great as your arm, or above, is dangerous; though some time such will grow, but not continue long, because they be tainted with deadly wounds, either in the Root or top, (and a Tree once thorowly tainted, is never good.) And though they get some hold in the earth with some lesser taw or taws, which give some nourishment to the body of the Tree; yet the heart being tainted, he will hardly ever thrive: which you may easily discern by the blacknesse of the boughs at the heart, when you dresse your trees. Also, when he is set with more tops than the Roots can nourish; the tops decaying, blacken the boughs, and the boughs the arms, and so they boil at the very heart. Or this taint in the removall, if it kill not presently, but after some short time, it may be discerned, black or yellownesse in the bark, and a small hungred leaf. Or if your removed plant put forth leaves the next and second Summer, and little or few spraves, is a great sign of a taint, and next years death. I have known a Tree tainted in setting, yet grow, and bear blossoms for divers years; and yet for want of strength could never shape his fruit.

Next unto this, or rather equall with these plants, are suck-Suckers good
 ers growing out of the Roots of great Trees, which Cherries and
 Plums

Plants do seldom or never want, and being taken kindly with their Roots, will make very good Sets. And you may help them much by enlarging their Roots with the tawes of the trees, whence you take them. They are of two sorts: Either growing from the very Root of the Tree; and here you must be careful, not to hurt your Tree when you gather them, by Ripping amongst the Roots, and that you take them close away; for these are a great and continual annoyance to the growth of your Tree, and they will hardly be cleared. Secondly, or they do arise from some taw; and these may be taken without danger, with long and good Roots, and will soon become Trees of strength.

A Running
plant.

There is another way, which I have not thoroughly proved, to get not only plants for grafting, but Sets to remain for Trees, which I call a *Running plant*, the manner of it is this: Take a Root or kernal and put into the middle of your plot; and the second year in the spring, cut his top, if he have one principal, (as commonly by nature they have) and let him put forth only four Syons toward the four corners of the Orchard, as near the earth as you can. If he put not four (which is rare) stay his top till he have put so many. When you have four such, cut the stock aloope, as in a forest hill in this Chapter, hard above the uppermost speig, and keep those four with one Syon clean and straight till you have them a yard and a half, at least, or two yards long. Then the next spring, in grafting time, lay down these four sprays, towards the four corners of your Orchard, with their tops in a heap of pum and good earth, and raised as high as the Root of your Syon, (for sap will not descend) and a sod to keep them down, leaving nine or twelve inches of the top to look upward. In that hill he will put Roots, and his top new Syons, which you must spread as before, and so from hill to hill, till he spread the compass of your ground, or as far as you list. If in bending the Syons crack, the matter is small; cleanse the ground, and he will recover. Every bended bough will put forth branches, and become Trees. If this plant be of a bur knot, there is no doubt: I have proved it in one branch my self, and I know at *Wilton in Cleveland*, a Pear-Tree of a great bulk and age, blown close to the earth, hath put at every knot Roots into the earth, and from Root to top, a great number of mighty stms or Trees, filling a great Room, like many Trees, or

a little Orchard : much better may to be done by Art, in a less Tree. And I could not mislike this kind, save that time will be long before it come to perfection.

Many use to buy sets already grafted, which is not the best way: Sets bought, for first, all removes are dangerous: Again, there is danger in the strange: Thirdly, it is a costly sort of planting: Fourthly, every Grafter is not trusty to sell you good fruit: Fifthly, you know not which is best, which is worst, and so may take much care about your worst Trees: Lastly, this way keeps you from practice, and so from experience, in so Good, Gentlemenly, Scholar-like, and profitable a faculty.

The only best way (in my opinion) to have sure and lasting sets, is never to remove: for every remove is a hindrance, if not a dangerous hurt, or deadly mine. This is the way: The place first being laid out, and the plot appointed where you will plant every Set in your Orchard, dig the earth where your set shall stand, to a yard compass, and make the earth mellow and clean, and mingle it with a few holes of, or avoid weeds, and immediately after the first change of the Moon, in the latter end of February, the earth being almost warmed over, put in every such room three or four kernels of Apples or Pears of the best, every kernel in an hole made with your finger, finger-deep, one foot distant one from another, and that day month following, as many more, (last some of the former sowing) in the same compass, but not in the first holes: Hence (God willing) shall you have roots enough: If they all or divers of them come up, you may draw, (but not dig) up (or cut) down) at your pleasure, the sets November: Allow many fewer you take away, to give or sell or otherwise, be sure to leave two of the good sort: And when in your second yearling year you graft, if you graft then in all, leave the one of those two ungrafted, left to guard the other, you shall: For I find by crystal, that after the first or second grafting in the same stock, being mist (for who hits all) the third melle puts your stock in deadly danger, for what will it offend: Yes, though you hit in grafting, yet may your graft with wind or other will be broken down: If your grafts do graft proper, you have your desire, in a plant unremoved, without injury, and the fruit at your own choice: and so you may, (some little earth being removed) pull but nothing up

The best sets,
Unremoved
how.

about 12 or 13
only

about 12 or 13

up the other plant or plants in that room. If your graft or stock, or both perish, you have another in the same place of better strength to work upon; for thriving without sub, he will overlay your grafted stock much. And it is hardly possible to misse in grafting so often, if your Gardiner be worth his name.

Sets ungrafted
best of all.

It shall not be amisse, (as I judge it) if your kernels be of choice fruit, and that you see them come forward proudly in their body, and beare a fair and broad leaf in colour, tending to a greenish yellow. (which argues pleasant and great fruit) to try some of them ungrafted: for although it be a long time ere this come to bear fruit, ten or twelve years, or more; and at their first bearing, the fruit will not seem to be like his owne kind, yet am I assured, upon Tryall, before twenty years growth, such Trees will increase the bignesse and goodnesse of their fruits, and come perfectly to their owne kind. Trees (like other breeding creatures) as they grow in years, bignesse, and strength, so they mend their fruit. Husbards and Housewives find this true by experience. In the Rearing of their young stone. More than this, there is no Tree like this for goodnesse, and durable last, if his keeping and dressing be as reasonable I guess, the readiest way to come soon to fruit, is grafting; because, in a manner, all your grafts are taken off fruit-bearing Trees.

Time of removing.

Now when you have made choice of your sex to remove, the ground being ready, the best time is in immediately after the fall of the Leaf, in or about the change of sub Moon, when the sap is most quiet, for then the sap is running: for it is unkindly, but in the extremity of drought or cold.

General rule.

At any time in winter, they you transplant Trees, to you put no ice nor snow to the Root of your plant in the setting; and therefore open, calm, and moist weather is best. To remove, the Leaf being ready to fall, and not fallen, or buds apparently put forth in anobscure white Galling for need, sometimes may do well, and the safe to walk in the plain trodden path, and not in the high way.

Some hold Opinion, that it is best removing before the fall of the Leaf, and this is commonly practised in the South by our best Artificers, the last now fallen, being the best season to be, that the descending of the sap will make it ready to root and bear in the Reason following, and I think you shall find no second reason in

in that position or practice, at least in the reason.

1. I say, It is dangerous to remove when the sap is not quiet ; for every remove gives a main check to the stirring sap, by staying the course thereof in the body of your plant, as may appear by trees removed any time in Summer, they commonly dye, may hardly shall you save the life of the most young and tender plant of any kind of wood (scarcely herbs) If you remove them in the pride of sap : for proud sap universally stayed by removall, ever withers, often taints, and so presently, or in very short time, kills. Sap is like blood in mans body, in which is the life, Chap. 3. page 9. If the blood universally be cold, life is excluded : so is sap tamed by untimely removall. A stay by drought, or cold, is not so dangerous (though dangerous, if it be extreme) because more natural.

2. The sap never descends, as men suppose, but is consolidated and transubstantiated into the substance of the tree, and passeth (alwaies above the earth) upward, not only betwixt the bark and the wood, but also into and in both body and bark, though not so plentifully, as may appear by a tree brooding, may fruitifying two or three years, after he be circumcised, at the very roots, like a River that enlargeth his channel by a continual descent.

3. I cannot perceive what time they would have the sap to descend. At *Midsummer* in a biting droughe it stays, but descends not : For immediately upon moisture, it makes second shoots, as (or before rather) *Michaelide*, when it happens his buds for next years fruit. If at the fall of the leaf, I grant, about that time is the greatest stand, but no descent of sap, which begins somewhat before the leaf fall, but not long ; therefore at that time must be the best removing, not by reason of descent, but stay of sap.

4. The sap in this course hath its profitable and apparent effects ; as the growth of the tree, covering of wounds, putting of buds &c. Whereupon it follows, if the sap descend, it must needs have some effect to shew it.

5. Lastly, boughs plait and laid lower than the root, dye for want of sap descending, except where it is forced by the maine stream of the sap, as in top boughs hanging like water in pipes, or except the plait boughs lying on the ground put roots of his own ; yea under boughs, which we commonly call water-boughs

can scarcely get sap to live, yea in time dye, because the sap doth presse so violently upward, and therefore the fairest shoots and fruits are alwaies in the top.

Remove soon.

Obisk. If you say that many so removed thrive; I say, that somewhat before the fall of the leaf (but not much) is the stand; for the fall and the stand are not at one instant; before the stand, is dangerous. But to return.

The sooner in Winter you remove your sets the better the latter the worse; for it is very perillous if a strong draught take your sets before they have made good their footing. A plant set at the fall, shall gain (in a manner) a whole years growth of that which is set in the spring after.

The manner of setting.

I use in the setting to be sure that the earth be mouldy, (and somewhat moist) that it may run among the small tangles without straining or bruising; and as I fill in earth to his Root, I shake the Set easily too and fro, to make the earth settle the better to his Root; and withall easily with my foot I pur in the earth close; for Aire is noysome, and concavities will follow. Some prescribe Oares to be put in with the earth: I could like it, if I could know any Reason thereof. And they use to set their plants with the same side towards the Sun; but this conceit is like the other. For first, I would have every tree to stand so free from shade, that not onely the Root (which therefore you must keep bare from grasse) but body, boughs, and branches, and every spray, may have the benefit of the Sun. And what hurt, if that part of the tree which before was shadowed, be now made partaker of the heat of the Sun? In turning of Bees, I know it is hurtfull, because it changeth their entrance, passage, and whole work, but not so in trees.

Set in the crust.

Moisture good

Set as deep as you can, so that in any wise you go not beneath the crust. Look Chap 2.

We spake in the second Chapter of moisture in generall; but now especially having put your removed plant into the earth, pour on water (of a puddle were good) by distilling presently, and so every week twice, in strong draught; so long as the earth will drink, and refuse by overflowing. For moisture mollifies, and both gives leave to the Roots to spread, and makes the earth yield sap and nourishment with plenty and facility. Nurseth,

they

(they say) give best and most milk after warm drinks.

If your ground be such, that it will keep no moysture at the Root of your plant, such plants shall never like, or but for a time. There is nothing more hurtfull for young trees, then pelcing drought. I have known trees of good stature, after they have been of divers years growth, and thrive well for a good time, perish for want of water, and very many by reason of taunts in setting.

It is meete your sets and grafts be fenced, till they be as big as your arm, for fear of annoyances. Many wayes may Sets receive damages, after they be set, whether grafted or ungrafted. For although we suppose, that no noysome beast or other thing must have accessse among your trees ; yet by casualty, a Dog, Cat, or such like, or your self, or negligent Friend bearing you Company, or a threwd boy, may tread or fall upon a young and tender plant or graft. To avoid these and many such chances, you must stake them round a pretty distance from the Set, neither so neer nor so thick, but that it may have the benefit of the Sun, Raine, and Air. Your stakes (small or great) would be so surely put, or driven into the earth, that they break not, if any thing happen to lean upon them, else may they fall be more hurtfull then the want of the fence. Let not your stakes shelter any weeds about your Sets ; for want of Sun is a great hinderance. Let them stand so far off, that your grafts spreading receive no hurt, either by rubbing on them, or of any other thing passing by. If your stock be long, and high grafted, (which I must discommend, (except in need) because there the sap is weak, and they are subject to strong winds, and the lightings of birds,) tie easily with a soft list three or foure pricks, under the clay, and let their tops stand above the grafts to avoid the lighting of Crows, Pies, &c. upon your grafts. If you stick some sharp thorns at the Roots of your stalks, they will make hurtfull things keep off the better. Other better fences for your grafts I know none. And thus much for sets and setting.

CHAP. VIII.

Of the defence of Trees.

I know not to what end you should provide good ground, well fenced, and plant good sets, and when your trees should come

Hurts of too
near planting

to profit, have all your labours lost, for want of due regard to the distance of placing your trees. I have seen many trees stand so thick, that one could not drive for the throng of his neighbour. If you do mark it, you shall see the tops of trees rubbed off, their sides galled like a gull's horse back; and many trees have more bumps than boughs, and most trees not well thriving, but short stumpy, and evill thriving boughs, like a Corn-field over-seeded, or a Town over peopled, or a pasture over laid; which the Gardener must either let grow, or leave the tree very few boughs to bear fruit. Hence shall arise, galls, wounds, diseases, and short life to the trees; and while they live, green, little, hard, worm-eaten, and evill thriving fruit arise, to the discomfort of the owners.

General rule,
All touches
hurtfull.

To prevent which inconvenience, one of the best remedies is, the sufficient and fit distance of trees. Therefore at the setting of your plants, you must have such respect, that the distance of them be such, that every tree be not annoyance, but an help to his fellows; for trees (as all other things of the same kind) should shroud, and not hurt one another. And assure your self, that every touch of trees (as well under as above) is hurtfull. Therefore this must be a general use rule in this Art, that no tree in an Orchard well ordered, or no bough, nor eyon, drop upon or touch his fellows. Let no man think this impossible, but looke in the eleventh Chapter of dressing of trees. If they touch, the wind will cause a sore rub. Young twigs are tender, if boughs or arms touch or rub, if they are strong, they make great galls. No kind of touch therefore in trees can be good.

The best di-
stance of trees.

Now it is to be considered what distance among Sets is requisite, and that must be gathered from the compass and room that each tree by probability will take and fill. And herein I am of a contrary opinion to all them which practise or teach the planting of trees, that ever yet I knew, read or heard of: for the common space between trees and trees, is ten foot; if twenty foot, it is thought very much. But I suppose twenty yards distance is small enough betwixt tree and tree, or rather too too little. For the distance must needs be as far as two trees are well able to overspread and fill, so they touch not by one yard at the least. Now I am assured, and I know one Apple tree, let of a slip *finger great*, in

in the space of twenty yeares (which I account a very small part of a trees age, as is shewed Chap. fourteen) hath spread his boughs eleven or twelve yards compasse ; that is, five or six yards on every side. Hence I gather, that in forty or fifty yeares, (which yet is but a small time of his age) a tree in good soyle, well liking, by good dressing (for that is much available to this purpose) will spread double at the least, viz. twelve yards on a side ; which being added to twelve allotted to his fellow make twenty and four yards, and so far distant must every tree stand from another. And look how far a tree spreads his boughs above, so far doth he put his roots under the earth, or rather further, If there be no stop nor let by walls, trees, rocks, barren earth, and such like : for an huge bulk, and strong armes, masse boughs, many branches, and infinite twigs, require wide spreading Rootes. The top hath the vast aire to spread his bough in, high and low, this way and that way ; but the Roots are kept in the crust of the earth, they may not goe downward, nor upward out of the earth, which is their Element, no more than the Fish out of the water, Camelion out of the ayre, nor Salamander out of the fire. Therefore they must needs spread far under the earth. And I dare well say, If nature would give leave to man, by Art to dress the Rootes of Trees, to take away the weeds, and tangles that lap and fret, and grow superfluously and disorderly, (for every thing *sublunary* is cursed for mans sake) the tops above being answerably dressed, we should have trees of wonderfull greatness, and infinite durance. And I perswade my self that this might be done sometimes in Winter, to trees standing in fair plaines and kindly earth, with small or no danger at all. So that I conclude, that twenty four yards is the least space that Art can allow for trees to stand distant one from another.

The parts of a Tree.

If you aske me what use shall be made of that waste ground between tree and tree : I answer, If you please to plant some tree or trees in that middle space, you may ; and as your trees grow contiguous, great and thick, you may at your pleasure take up those last trees. And this I take to be the chief cause why the most trees stand so thick ; for men not knowing (or not regarding) this secret, of needfull distance, and loving

Waste grounds in an Orchard

fruit of trees planted to their hands, think much to pull up any, though they pine one another. If you or your heirs or successors would take up some great trees (past setting) where they stand too thick, be sure to do it about *Midsummer*, and leave no main Roots. I destinate the space of four and twenty yards, for trees of age and stature. More then this, you have borders to be made for walks, with Roses, Berries, &c.

And chiefly consider, that your Orchard, for the first twenty or thirty years, will serve you for many Gardens; for Saffron, Licoras, Roots, and other herbs for profit, and flowres for pleasure: so that no ground need be wasted if the Gardiner be skillfull and diligent. But be sure you come not neer with such deep delving the Roots of your Trees, whose compasse you may partly discern, by the compasse of the tops, if your top be well spread. And under the droppings and shadow of your Trees, be sure no herbs will like. Let this be said for the distance of Trees.

CHAP. IX.

Of the placing of Trees.

THe placing of Trees in an Orchard, is well worth the regard: For although it must be granted, that any of our foresaid Trees Chap. 7. will like well in any part of your Orchard, being good and well dressed earth; yet are not all Trees alike worthy of a good place. And therefore I wish that your Filbert, Plums, Damsons, Bullen, and such like, be utterly removed from the plain soyl of your Orchard into your fence: for there is not such fertility and careful growth as within: and there also they are more subject to, & can abide the blasts of *Æolus*. The Cherries and Plums being ripe in the hot time of Summer, and the rest standing longer, are not so soon shaken as your better fruit, neither, if they suffer losse, is your losse so great. Besides that, your fences and ditches will devour some of your fruit growing in, or neere your hedges. And seeing the continuance all of these (except Nuts) is small, the care of them ought to be the lesse. And make no doubt, but the fences of a large Orchard will contain a sufficient number of such kind of Fruit Trees in the whole compasse. It is not materiall, but at your pleasure, in the said fences, you may either intermingle your

your severall kinds of fruit trees; or set every kind by it selfe, or order doth very well become your better and greater fruit. Let therefore your Apples, Pears, and Quinces, possesse the toyll of your Orchard, unless you be especially affected to some of your other kinds; and of them, let your greatest trees of growth stand further from Sun, and your Quinces at the South side or end, and your Apples in the middle: so shall none be any hindrance to his fellows. The warden tree, and Winter pear, will challenge the preeminence for stature. Of your Apple-trees, you shall find a difference in growth. A good Pippin will grow large, and a Costard tree: stand them on the North side of your other Apples: thus being placed, the least will give Sun to the rest, and the greatest will shroud their fellows. The Fences and out trees will guard all.

CHAP. X.

Of Grafting.

NOW are we come to the most curious point of our faculty, curious in conceit, but indeed as plain and easie as *Of Graving* the rest, when it is plainly shewn, which we commonly call *Gras* or *Carving* *Grafting* what.



Grafting what sing, or (after some) Grafting, I cannot Etymologize or shew the original of the Word, except it come of Graving or Carving.

A Graft. But the thing or matter is : The reforming of the fruit of one tree with the fruit of another, by an artificial transplanting or transposing of a twigge, bud or leaf, (commonly called a Graft) taken from one tree of the same, or some other kind, and placed or put so, or into another tree in one time and manner.

Kinds of grafting. Of this there be divers kinds, but three or four now especially in use : to wit, Grafting, incising, packing on, grafting in the scutcheon, or inoculating ; whereof the chief and most usuall, is called Grafting (by the generall name, *Catacretesis* :) for it is the most known, surest, readiest, and plainest way to have store of good fruit.

Graft how. It is thus wrought ; You must with a fine, thin, strong and sharp Saw, made and armed for that purpose, cut off a foot above the ground, or thereabouts, in a plain without a knot, or as near as you can without a knot (for some stocks will be knotty) your Stock, i.e. be plant being surely stayed with your foot and legg : or otherwise straight overwhart (for the Stock may be crooked) and then plain his wound smoothly with a sharp knife: that done, cleave him cleanly in the middle with a cleaver, and a knock or mall, and with a wedge of Wood, Iron, or Stone, two handfull long at least, put in the middle of that cleft, with the same knock, make the wound gape a frow breadth wide into which you must put your Grafts.

A graft what. The graft is a top twig taken from some other tree (for it is a folly to put a graft into his own stock) beneath the uppermost (and sometimes in need, the second) knot, and with a sharp knife fitted in the knot (and sometimes out of the knot when need is) with shoulder an inch downward, and so put into the stock with some thrusting (but not straining) bark to bark inward.

Eyes. Let your graft have three or four eyes for readinesse to put forth, and give issue to the sap. It is not unwise to cut off the top of your graft, and leave it but five or six inches long, because commonly you shall see the tops of long grafts dye. The reason is this. The lap in grafting receives a rebuke, and cannot work so strongly presently,

firmly and your grasses receive not sap so readily, as the naturall branches. When your grasses are cleanly and closely put in, & your wedge pull'd out nimble, for fear of putting your grasses out of frame, take well tempered mortar, soundly wrought with chaffe or horse dung, (for the dung of Cattel will grow hard, and straine your grass) the quantity of a Goose egge, and divide it Just, and therewith all cover your stock, laying the one halfe on the one side, and the other halfe on the other side of your grasses, (lest thrusting again your grasses you move them) and let both your hands thrust at once, and alike, and let your clay be tender, to yield easily: and all, lest you move your grasses. Some use to cover the cleft of the stock, under the clay, with a Piece of oile batke or leafe, some with a sear-cloth of waxe and butter, which as they be not much needfull, so they hurt not, unlesse that by being busie about them, you move your grasses from their places. They use also mosse, tyed on above the clay with some bryar wicker, or other bands. These profit nothing. They all put the grasses in danger, with pulling and thrusting: for I hold this generall Rule in grassing and planting; if your stock and grasses take and thrive, (for some will take and not General rule. thrive, being cainted by some meane in the planting or grassing) they will (without doubt) recover their wounds safely and shortly.

The best time of grassing, from the time of removing your Time of stock is the next Spring, for that saves a second wound, and a grassing. second repulse of sap, if your stock be of sufficient bignesse to take a grasse from as big as your thumbe, to as big as an arme of a man. You may grasse lesse, (which I like) and bigger, which I like not so well. The best time of the year is in the last part of February, or March, or beginning of Aprill, when the Sun with his heat begins to make the sap stirre more Rankly about the change of the Moon, before you see any great apperency of leafe or flowers, but onely knots and buds, and before they be proud, though it be sooner: Cherries, Peares, Apricocks, Quinces, and Plummes would be gathered and grafted sooner.

The grasses may be gathered sooner in February, or any time Gathering of within a month, or two before you grasse, or upon the same grasses, day (which I commend) if you get them any time before: for I

Graffes of old
trees.

I have known graffes gathered in *December* and do well; take head of drought; I have my self taken a burke not of a Tree, and the same day when he was laid in the earth about mid *February* gathered graffes and put in him; and one of those graffes bore the third year after, and the fourth plentifully: Graffes of old Trees would be gathered sooner than of young Trees, for they sooner break and bud: If you keep graffes in the earth, moisture with the heat of the Sun will make them sprout as fast, as if they were growing on the Tree. And therefore seeing, keeping is dangerous, the surest way (as I judge) is to take them within a week of the time of your grafting.

Where taken.

The graffs would be taken not of the proudest twig, for it may be your stock is not answerable in strength. And therefore (say) the graffs brought from South to us in the North, although they take and thrive, (which is somewhat doubtfull) by reason of the difference of the clime and carriage) yet shall they in time fashion themselves to our cold Northern soils, in growth, taste, &c.

None of the poorest; for want of strength may make them on ready to receive sap: (and who can tell but a poor graft is taken) not on the outside of your Tree, for there should your Tree spread; but in the midst: for there you may be sure your Tree is not wholy hindered in his growth or form. He will still recover inward, more then you would wish. If your clay chafe in Summer with drought; look well in the Chinkes for *Emmits* and *Earwigs*, for they are cunning and close thieves, about graffs; you shall find them stirring in the morning and evening; and the rather in the moist weather: I have had many young buds of Graffs, even in the flourishing, eaten with *Ants*. Let this suffice for grafting, which is in the faculty counted the chiefe secret, and because it is most usual, it is best known.

Emmits.

Graffs are not to be disliked for growth, till they wither, pine, and die. Usually before *Midsummer* they break, if they live. Some (but few) keeping proud and green, will not put till the second year, so it is to be thought of. See.

The first shew of putting is no sure signe of growth, it is but the sap the graft brought with him from his Tree.

So soon as you see the graft put forth growth, take away the clay, for then doth neither the stock nor the graft need it, (put a little

lied from well tempered clay in the hole of the stock, for the clay is now tender, and rather keeps moisture then drought.

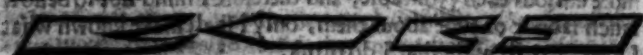
The other wates of changing the naturall fruit of Trees, are more curious then profitable, and therefore I mind not to bestow much labour on them, only I shall make known what I have proved, and what I do think.

And first of *Incising*, which is the cutting of the bark of the Incising.
boale, a Rine or branch of a Tree at some bending or knee, shol-
derwise with two gashes, onely with a sharp knife to the wood : then take a wedge, the bigness of your graft, sharpened, set on
the one side, agreeing with the Tree, and wound on the other
side, and with that being thrust in, raise your bark : then put in
your grafts, fashioned like your wedge just and lusty, cover your
wound, and fast it up, and take heed of straining. This will grow
but to small purpose, for it is weak hold, and lightly it will be
under growth. That may you graft betwixt the bark and the
Tree of a great stock that will not easily be clefted But I have try-
ed a better way for great trees, *viz.* First cut him off straight, and
cleave him with your knife : then cleave him into four quarters
equally with a strong cleaver : then take for every cleft two or
three small, (but hard) wedges, just of the bignesse of your grafts,
and with those wedges driven in with a hammer, open the four
clefts so wide, (but no wider) that they may take your four
grafts with thrusting, not with straining : and lusty, cover and
clay it closely, and this is a sure and good way of grafting : or thou,
cleft you stock by his edges twice or thrice with your cleaver, and
open him with your wedge in every cleft one by one, and put in
your grafts and then cover them. This may do well.

Packing on, is when you cut aslope a twig of the same bignesse
with your graft, either in or beside the knot, two inches long, Packing thus.
and make your graft agree junip with the cyon, and gash your
graft and your cyon in the middle of the wound, length-way, a
brow breadth deep, and thrust the one into the other, wound to
wound, sap to sap, bark to bark, then eye them close and clay
them. This may do well. The fairest graft I have in my little
Orchard, which I have planted, is thus packt on, and the branch
whereon I put him, is in his plentiful stock.

To be short in this point, cut your graft in any sort or fashion

two inches long and joyn him cleanly, and close to any other
forig of any Tree in the latter end of the time of grafting, when
sap is somewhat rise, and in all probability, they will close and
thrive: thus.



The sprig. The graft. The twig. The graft.

Or any other fashion you think good:

Innoculating. Innoculating is an eye or bud, taken bark and all from one
Tree, and placed in the room of another eye or bud of another;
cut both of one compass, and their bound. This must be done in
Summer, when the sap is proud.

Much like unto this, is that they call grafting in the scatch-
ion; they differ thus: That here you must take an eye with his
leaf, or (in mine opinion) a bud with his leaves. (Note that an

**Grafting in
Scatchion.**

eye is for a seison, a bud is for flowers and fruit) and place them
on an other Tree, in a plain (for they so teach:) the place
or bark where you must set it, must be thus cut with a
sharp knife, and the bark raised with a wedge, and then the
eye or bud put in and so bound up. I cannot deny but such may
grow. And your bud if he take will flower, and beare fruit in
that year: as some grafts and sets also, being set for bloomes.
If these two kinds thrive, they reform but a spray, and an under
growth. Thus you may place Roses or Thorns, and Cherries on
Apples, and such like. Many write much more of grafting, but to
small purpose. Whom we leave to themselves, and their follow-
ers, and ending this secret, we come in the next Chapter to a point
of knowledge, most requisite in an Arborist, as well for all other
woods as for an Orchard.

CHAP. II.

Of the right dressing of Trees.

**Necessity of
dressing trees.**

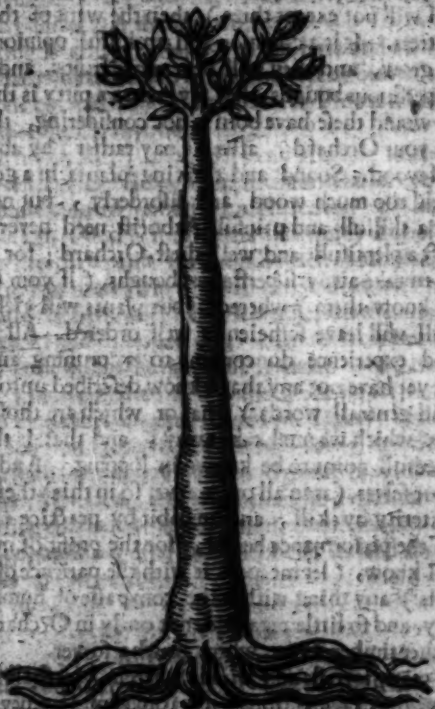
IF all these things afore-said were indeed performed: as we
have shewed them in words, you should have a perfect Orchard
in words and substance, begun to your hand: And yet are all these
things nothing, if you want that skill to keep and dresse your
Trees. Such is the condition of all earthly things, whereby a
man receiveth profit or pleasure, that they degenerate/prelent-ly

ly without good ordering. Man himself left so himself, grows from his heavenly and spirituall generation, and becometh beastly, yea, devilish to his own kind, unless he be regenerate. No marvell then, if Trees make their shoots, and put their spears disorderly. And truly, (if I were worthy to judge) there is not a mischief that breedeth greater and more generall harme to all the Orchard, (especially if they be of any continuance) than ever I saw, (I will not except three) then the want of the skillfull dressing of trees. It is a common and unskillfull opinion, and saying, Let all grow, and they will bear more fruit: and if thou lop away superfluous boughs, they say, what a pitty is this? how many Apples would these have borne? not considering, there may arise hurt to your Orchard, as well (nay rather) by abundance as by want of wood. Sound and thriving plants in a good soile will ever yield too much wood, and disorderly, but never too little. So that a skillfull and painfull Arborist need never want matter to effect a plentifull and well dress Orchard; for it is an easie matter to take away superfluous boughs, (if your Gardner have skill to know them) whereof your plants will yield abundance, and skill will leave sufficiently well ordered. All ages both by rule and experience do consent to a pruning and lopping of Trees: yet have not any that I know described unto us, (except in dark and generall words) what or which are those superfluous boughs, which we must take away, and that is the chiefe and most needfull point to be known in lopping. And we may well assure our selves, (as in all other Arts, so in this) there is a vantage and dexterity by skill, and an habit by practice out of experience, in the performance hereof, for the profit of mankind; yet do not I know, (let me speak it with the patience of our cunning Arborists) any thing within the compasse of human affaires so necessary, and so little regarded, not onely in Orchards, but also in all other timber Trees, where, or whatsoever.

How many forests and woods wherein you shall have for one Timber wood lively thriving Tree, four (nay sometimes twenty four) evill evill dress, thriving, Rotten and dying Trees, even while they live? and in stead of trees, thousands of bushes and shrubs. What rottennesse, what hollownesse, what dead armes, withered tops, cannall trunks, what loads of moss, drooping boughs? and dying branch-

branches you shall see every where? And those that are like in this sort are in a manner all unprofitable boughs, crooked, knotted, crooked, little and short boughs; what an infinite number of bushes, shrubs, and skeins of haunts, thornes, and other profitable wood, which might be brought by dressing to become great and goodly trees? Consider now the cause: The lesser wood hath been

**The cause of
harm in woods**



Imagine the Root to be spread far wider.

spoiled with careless, unskillfull, and untimely frowing, and much also of the great wood. The greater trees at the first rising have filled and over-laden themselves with a number of wastfull boughs

boughes and suckers; which have not only down the sap from the boale, but also have made it knotty; and themselves and the boale mossie for want of dressing; whereas if in the prime of youth they had been taken away close; all but one top (according to this pattern) and clean by the bulke; the strength of all the sap should have gone to the bulke; and so he would have recovered and covered his knees, and have put forth a faire long and straight body; (As you see) for timber profitable, huge, great of bulke, and of infinite last.

Dresse timber trees how.

If all Timber Trees were such (will some say) how should we have crooked wood for wheels, &c.

Answer. Dresse all you can; and there will be enough crooked for those uses.

More then this, in most places, they grow so thick, that neither themselves, nor earth; nor any thing under or near them can thrive; nor Sun, nor Rain, nor Air can do them; nor any thing near or under them, any profit or comfort.

I see a number of Hags, where, out of one Root you shall see three or four, (nay more; such is mens unskillfull greedinesse, who desiring many, have none good) pretty Oles or Ashes straight and tall; because the Root at the first shoot gives sap a-maine: but if one onely of them might be suffered to grow, and that well and cleanly pruned; all to his very Top; what a Tree should we have in time? And we see by those Roots continually and plentifully springing; notwithstanding so deadly wounded, what a commodity should arise to the owner, and the Commonwealth, if wood were cherished, and orderly dressed.

The waste boughs closely and skillfully taken away, would give us store of fences and fuel; and the bulke of the Tree in time dressed,

Profit of trees

would grow of huge length and bignesse. But here (me-thinks) I hear an unskillfull Arborist say; that Trees have their severall forms, even by nature, the Pearre, the Holly, the Aspe, &c. grow long in bulke with few and little armes, the Oke by nature broad, and such like. All this I grant; but grant me also, that there is a profitable end and use of every Tree; from which if it decline,

The end of trees.

(though by nature) yet man by art may; (nay must) correct it. Now other end of Trees, I could never learn, then good Timber; fruit much and good, and pleasure; uses physicall hinder nothing a good form.

Nel-

Trees will take
any forme.

Neither let any man so much as think, that it is unprofitable, much lesse impossible, to reform any Tree of what kind soever. For (believe me) I have tryed it, I can bring any tree (beginning betimes) to any form. The Pearre and Holly may be made to spread, and the Oke to close.

But why do I wander out of the compasse of mine Orchard into the Forrests and Woods? Neither yet am I from my purpose, if boale of timber-trees stand in need of all the sap, to make them great and straight, (for strong growth and dressing makes strong trees) then it must be profitable for fruit, (a thing more immediately serving a mans need) to have all the sap his Roor can yield: for as timber, sound, great, and long, is the good of *timber Trees*, and therefore they bear no fruit of worth: so fruit, good, sound, pleasant, great and much, is the end fruit Trees. That gardner therefore shall perform his duty skillfully and faithfully, which shall so dresse his Trees, that they may bear such and such store of fruit, which he shall never do, (I dare undertake) unless he keep this Order in dressing his Trees.

The end of
trees.

How to dresse
a fruit tree.

A fruit Tree so standing, that there need none other end of dressing but fruit; (not Ornaments, not walks, nor delights to such as would please their eye only; and yet the best form cannot but both adorne and delight) must be parted from within two foot or there abouts, of the earth; so high to give liberty to dresse his Roor, and no higher; for drinking up the sap that should feed his fruit, for the boale will be first, and best served and fed, because he's next the Roor, and of greatest waxe and substance, and that makes him longest of Life; into two, three, or foure armes, as your stocke or grass's yield twigs, and every arme into two or more branches, and every branch into his severall syons, still spreading by equall degrees, so that his lowest spray be hardly without the reach of a mans hands, and his highest be not past two yards higher, rarely, (especially in the midst) that no one twig touch his fellow. Let him spread as farre as he list without his master-bough, or lop equally. And when any bough doth grow sadder, and fall lower then his willowes, (as they will with weight of fruit) ease him the next spring of his superfluous twigs, and he will Rise: when any bough or spray shall amount above the rest; either snub his top with a nip be-

twixt

twixt your finger and your thumb, or with a sharp knife, cut take him cleane away, and so you may see any Cyane you would reforme; and as your tree grows in stature and in strength, let him rise with his tops but slowly, and early, especially in the middle, and equally, and in breadth also; and follow him upward with lopping his under growth and water boughs, keeping the same distance of two yards, but not above three in any wise, be-
;wixt the lowest and the highest twig.

1. Thus you shall have well liking, clean-skind, healthfull, great, and long-lasting trees.

Benefits of
good dressing.
Remedy.

2. Thus shall your tree grow low, and safe from winds, for his top will be great, broad, and weighty.

3. Thus growing broad, shall your trees bear much fruit (I dare say) not as much as six of your common trees, and good without shadowing, dropping and fretting; for his boughs, branches, and twigs shall be many, and those are they (not the boal) which bear fruit.

4. Thus shall your boal being little (not small, but low) by reason of his shortnesse, take little, and yield much sap to fruit.

5. Thus your trees by reason of strength in time of seeding shall put forth more blossomes and more fruit, because free from taints (for strength is a great help to bring forth much) and safely, whereas weaknes failes in seeding, though the season be calm.

Some are to bare their Roots in Winter, to say the leasting all hooter seasons, which I discommend, because

1. They hurt the Roots.

2. It stays nothing at all.

3. Though it did being small, with on in the North they have their part of our April and May Frosts.

4. Hindrance cannot profit weak trees in seeding.

5. They waste much labour.

6. Thus shall your tree be easie to dress, and without danger, either to the tree or the dresser.

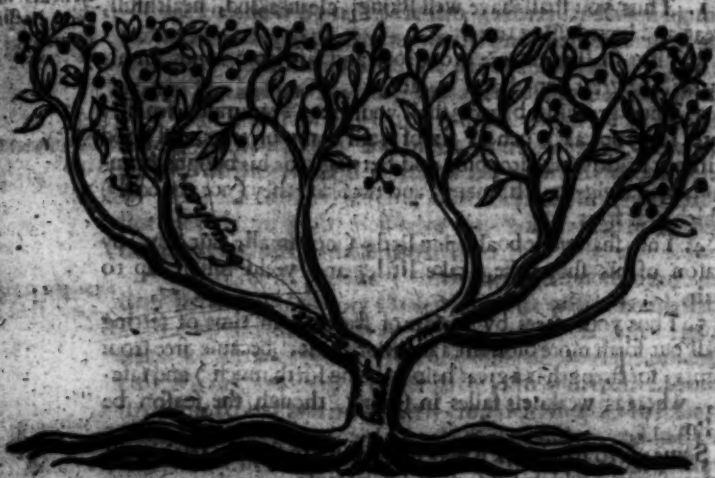
7. Thus may you safely and easily gather your fruit without falling, breaking, or breaking of Cyons.

This is the best form of a fruit tree, which I have here shadowed

downd out for the better capacity of them that are led more with the eye, then the mind: craving pardon for the deformity, because I am nothing skilfull either in the painting or carving.

Imagine that the paper makes but one side of the tree to appear, the whole round compasse will give leave for many more armes, boughs, branches, and cyons.

The perfect forme of a Fruit-tree.



If any tree cannot well be brought to this form : *Experto crede Roberto*, I can shew others of them under twenty years of age.

Time best for
Praying.

The best time of the Moon for praying, is, as of grafting, when the sap is ready to rise (not proudly rising) and so to cover the wound, and of the year, a month before (or at least when) you graft. Drisse Pears, Apricocks, Peaches, Cherries, and Bullies sooner. And old trees before young plums, you may drisse at any time betwixt Leaf and Leaf. And note where you take any thing away, the sap the next Summer will be pouring : be sure therefore when he puts a bod in any place where you would not have him, rub it off with your finger.

howeb

And

And here you must remember the common homely proverb : *Dressing to time.*

Begin betimes with trees, and do what you list : but if you let

them grow great and stubborn, you must do as the tree list.

They will not bend but break, nor be wound without danger.

A small branch will become a bough, and a bough an arme in

hignesse. Then if you cut him, his wound will fester, and hardly

without good skill recover therefore, *Of a principle.* *Faults of evill*

wounds, and lesser, or any bough cut off a handfull or more from

the body, comes hollownesse, and untimely death. *And there*

fore when you cut, strike close, and clean, and upward, and leave no

bunch.

This forme in some cases sometimes may be altered. *If your*

tree, or trees, stand near your walks, if it please your fancy more,

let him not break till his boal be above your head : so may you

walk under your trees at your pleasure. *O* If you see your fruit

trees for your shades in your Groves, then I respect not the forme

of the tree but the comelinesse of the walk. *Of dressing of old*

young plants, (to be formed) it is meet somewhat be said for the

instruction of them that have old trees already formed, or rather

deformed : for *Moliam non vitare nisi de quibus.* *The faults*

therefore of a disordered tree, I find to be five.

1. An unprofessable boale.

2. Water boughs.

3. Fretters.

4. Suckers. And,

5. One principal top.

A long boal asketh much feeding, and the more he hath the

more he desires, and grow, (as a drunken man drink, or a covetous

man wealth,) and the little remains for the fruit : he puts his

boughs into the ayre, and makes them, the fruit and it self more

dangerous with winds : for this I know no remedie, after that the

tree is come to growth : once evill, never good.

Water boughs, or under growth, are such boughs as grow

low under others, and are by them over-grown, over-shadowed,

dropped on, and pine for want of plenty of sap, and by that

meanes

Dressing to time.

*Faults of evill
dressed trees, and
the remedie.*

*The forme al-
tered.*

*Dressing of old
trees.*

*Faults are
five, and their
remedies.*

Long boale.

No remedie.

*Water
boughs.*

means in time drye For the sap presseth upward : and it is like water in her course, where it findeth most easie abate it is slowe, leaving the other lesse sluices dry, even as wealth so wealth, and more to more. These so long as they bear, they bear lesse worse and fewer suite, and marish.

Remedic.

The Remedy is easie, if they be not grown greater than your arms, lop them close and cleane; and contrie the middle of the wound; the next Summer when he is dry, with a false milde of tallow, targe, and a very little pitch, good for the covering of any such wound of a greater tree : unless it be bark wild, and then a few cloths of Fish butter, honey and wine presently (while the wound is green) applyed. Is a soveraign remedy, in Summer especially. Some bind such wounds with a thumb Rope of hay, moist, and rub it with dung.

Fitters.

Fitters are, when by negligence of the Gardener, two or more parts of the tree, or of divers trees, as armes, boughs, branches, or twigs, grow fencer and close together, that one of them by rubbing doth wound one another. This fault of all other trees the want of skill (or care or study in the merist) : for here the fault is apparent, and the remedy easie, seen to be timely : gall is not incurable, but by cutting away those members for let them grow, and they will be worse and worse, and to kill themselves with civill strife for Roomah, and danger the whole tree. Avoid them be time therefore, as a Common wealth doth become enemies.

Touching.

Remedic.

A Sucker is a long, proud, and disorderly Ounce, growing streight up (for pride of sap makes proud) long, and streight growth) out of any lower parts of the tree, receiving a great part of the sap, and bearing no fruit, till it have tyrannized over the whole tree. These are the idle and great Doves among them : and proud and idle members in a Common Wealth.

The Remedy of this is, as of water boughs, unless they be grown greater than all the rest of the boughs : and then your Gardener (at your discretion) may leave him for his booke, and take away all, or the most of the rest. If he by little clip him, and so him, perhaps he will take : my father Apple tree was full a

One principal
upon which
and Remedy.

One or two principall top boughs are as evill. In a manner as fashers; they rise of the same cause, and receive the same Remedy :

ready: yet these are more tolerable; because these bear fruit, yet the last but suckers of long time do not bear.

I know not how your tree should be faulty, if you reforme all your vices timely, and orderly. As that Rafter serve for dressing young trees, and sets in the first setting: so may they well serve to help old trees, though not exactly to cure them.

The Instruments fittest for all these purposes, are most commonly, for the greatest trees, an handsome, long, light Ladder of Stepole, a Helle, mallet, and a long armed Saw, and sharp. For lesser trees, a little and sharp hatcher, a broad mouthed Chisel, strong and sharp, with an hand beetle, your strong and sharp Clove, with a knock, and which is a most necessary instrument amongst little trees, a great haired and sharp knife or ventila. And as needfull is a Scoop for the top of the Ladder of cane or moss rungs, with two back feet, whereon you may safely, and easily stand to grade, to dress, and to gather fruit thus formed. The feet may be fast wedged in, but the Ladder must have look with two bands of iron, and thus much of dressing over for this seasonally to profit.

CHAP. XII.

Of Soyl.

There is one thing yet very necessary for to make your Orchard both better and more lasting. Yet so necessary, that without it your Orchard cannot last, nor prosper long, which is neglected generally both in prospect and in practice, that is, miring with soyl: whereby it happeneth that when trees (amongst other evils) through want of fatness to feed them, become miserie, and in their growth are cold (or not thriving) it is either attributed to some wrong cause, as time (when indeed they are but young) or evil handling (which they never so well) or such like, as if the cause is altogether unknown, and so not amended.

Necessity of
soyling.

Trees great
Suckers.

Can there be devised any way by nature, or any fooder or fooder to suck out, and take away the heart of earth, then by great trees, that great suckers cannot be sustained without great loss of sap? What living body have you greater, then of great? The great Sea monsters (which of one came at hand at Treforth

in *Yorkshire*, hard by us, 18 yards in length, and was as much
 in compass, some had ears, huge branches, and smooth bark, because
 they be inland trees, but especially because they are fel-
 dome seen; but sure being come to his growth and age,
 twice that length, and of a bulk never so great, besides his
 other parts is not admired because he is so commonly seen. And
 doubt not, but if he were well regarded from his himself, by
 succeeding ages, to his full strength, the most of them would
 double their measure. About nine years ago, I heard by credible
 and constant reports, That in *Northen Parke* in *Westmoreland*,
 neer unto *Penrith*, there lay a blown Oak, whose trunk was
 so blage, that two Hodge-men being the one on the one side and
 the other on the other side, they could not see two inches in
 which if you add his arms, boughs, & roots, it would be his big-
 ness, what would he have been if reserved to the vintage? Also
 I read in the History of the *West-Indies*, out of *Pierre Martyr*,
 that sixteen men taking hands one with another, were not a-
 ble to embrace one of these trees about. His nature having
 given him, a faculty by huge and infinite roots, to rise and
 take, and draw immediately his sustenance from our common
 mother the earth (which is like in this poynt to all other mothers
 that live) hath also ordained that the tree over-laden with
 fruit, and wanting sap to feed all the huge brought forth, will
 waste all the canoe-feed, like women bringing forth more
 Children in once than the birth rate. See you not how trees es-
 pecially, be kind being great, standing so thick and close, that
 they cannot get plenty of sap, since away all the graft, waste,
 better limbs and trees; yes, and themselves also, for want of vi-
 gour of sap, so that trees growing close, sucking the soyl where-
 on they stand continually and incessantly, and the poison of the
 earth that feeds them decaying, for what is there that wastes
 continually, that shall not have an end? Shall they have supply
 of sucking or else leave thriving and growing? Some grounds
 will bear corn while they be new, and no longer, because their
 crust is shallow, and not very good, and lying they grow and
 waste and become barren. The ordinary soyl is more or less
 fertile, without following it soyling, and the soil it quick supply
 even for the little body of corn. How then can we think that a-

ny Ground how good soever can sustain bodles of such great-
ness, and such great feeding, without great plenty of sap arising
from good earth. This is one of the chief causes why so many
of our Orchards in England are so evil shewing, either they come
to growth, and our fruit so bad. Men are loath to bestow much
ground, and desire much fruit, and will neither set their trees in
sufficient compass, nor yet feed them with manure. Therefore of
necessity Orchards must be soyled.

The fittest time is, when your trees are grown great, and
have heer hand spread your earth, wishing new earth to sustaine
them, which if they do, they will seek abroad for better earth,
and shun that which is barren (if they find better) as cattell evil
pasturing.

For nature hath taught eve y creature to desire and
seek his own good, and to avoid hurt. The best time of the
year is at the fall, that the frost may bite and make it tender, and
the Rain wash it into the roots. The Summer time is perilous
if ye dig, because the sap stirs again. The best kind of soyl is
such as is fat, hot, and tender. Your earth must be lightly open-
ed, that the Dung may go in, and wash away, and but shallow,
lest you hurt the Rootes, and in the spring, closely and equally
made plain again for fear of Sifters. I could wish, that after my
trees have fully possessed the soyl of mine Orchard, that every
seven years at least, the soyl were bespread with dung half a foot
thick at least. Puddle water out of the Dughill poured on plen-
tifully, will not only moisten but fatten exceedingly in June, and
July. If it be thick and fat, and spalled every year, your Orchard
shall need none other soiling. Your ground may be so low as the
Riverside, that the flood standing some dayes and nights thereon,
shall save you all this labour of soiling.

C. H. A. P. XII.

Of Annoyances.

A Chief help to make every thing good, is to avoid the
evils thereof: you shall never attain to that good of your
Orchard you look for, unless you have a Gardener that can dis-
cern the diseases of your trees, and other annoyances of your
Orchard, and find out the causes thereof, and know and apply
the Remedies for the same. For in your ground such plants and
weeds as you would wish, and if they be wasted with burisall things, what
have

hod 20710

Two kinds of
evills in an
Orchard.

Galls.

Canker.

Moss.

Weaknesse in
setting.

Bark-bound.

Worm.

have you good lucke your labour for your travel: it is much to be
Orchard and every thing which is good for the body. The best sort of physick
for preservation of health is to prevent and cure diseases, or to
All the diseases of an Orchard are of two sorts: either inter-
nall, or externall: I call those inward hurts which breed on, and in,
particular trees.

Galls. Bark bound. Bark pld.

Weaknesse in setting. Deadl wounds.

Galls, Cankers, Moss, Weaknesse, though they be divers dis-
eases, yet (howsoever authors think otherwise) they rise all out
of the same cause.

Galls we have described with their cause and remedy, in the
eleventh Chapter under the name of fretters.

Canker is the consumption of any parts of the tree bark and
wood; which also in the same place is deciphered under the title
of water-bought.

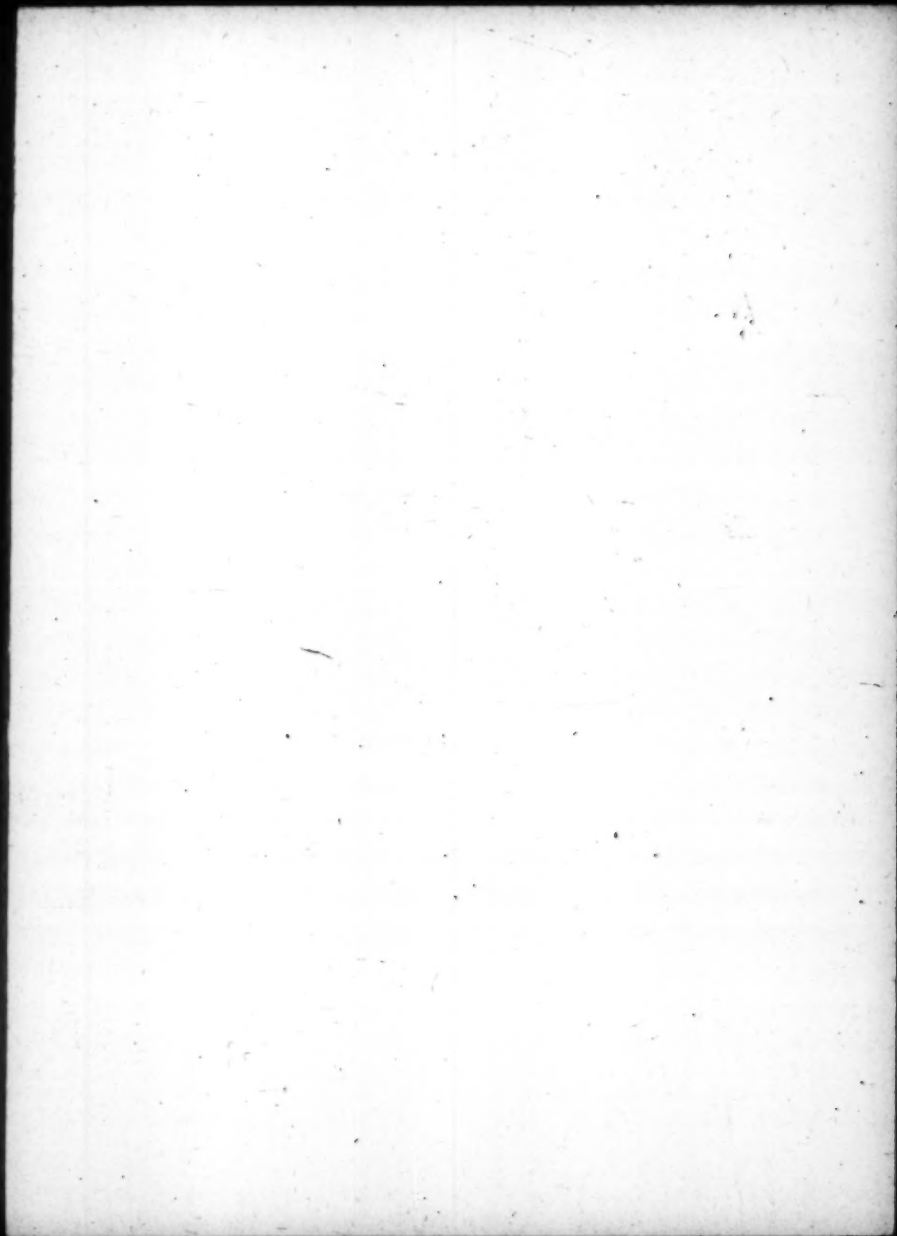
Moss is sensible seen and known of all, the cause is pointed
out in the same Chapter in the discourse of timber wood; and
partly also the remedy; but for Moss I add this; that any time in
summer (the spring is best, when the cause is removed) with an
Hair cloth immediately after a shoure of rain, rub off your Moss
or with a piece of wood (if the moss is about) formed like a great
knife.

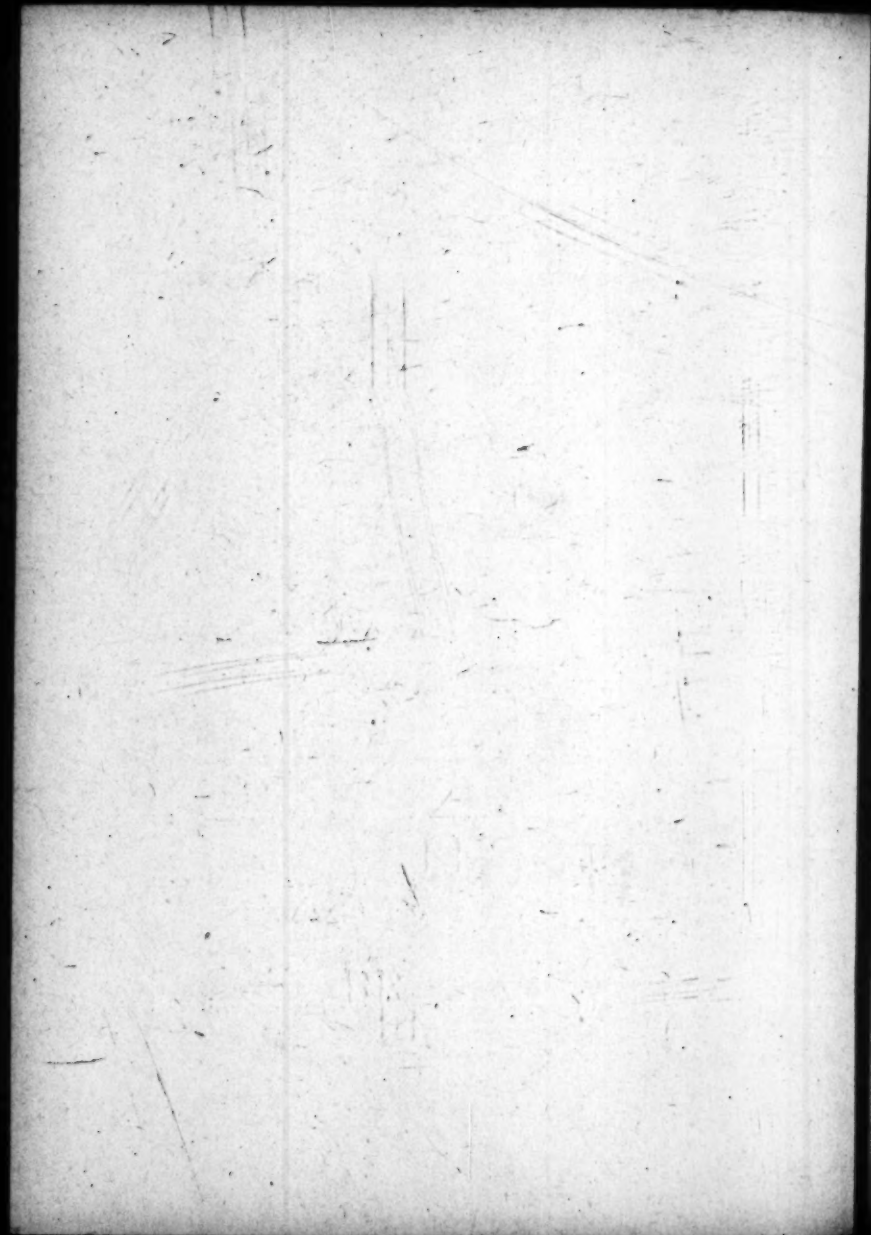
Weaknesse in the setting of your fruit shall you find there also
in the same Chapter, and the remedy. All these flow from the want
of Roomth in good soyl, wrong planting, Chapter seven, and e-
vill, or no dressing.

Bark bound as I think riseth of the same cause, and the best
and present remedy (the cause being taken away) is with your
sharp knife in the spring, length way to hance hit back throu-
out 3 or 4 fathoms of his bark.

The disease called the worm is thus discerned: the bark will
be hollow in divers places like galls: the wood will dry and dry,
and you shall see easily the bark swell: it is worthy to be thought
that therein is bred some Worm: I have not yet thoroughly
sought it out, because I was never troubled therewithall: but

only





only have seen such trees in divers places. I think it a Worme rather, because I see this disease in trees, bringing forth of sweet taste, and the swelling shews so much. The remedy (as I conjecture) is, so soon as you perceive the wound, the hole spring out it out bark and all, and apply Cowpisse and vinegar profusely, and so twice or thrice a week, for a months space: For I well perceive, if you suffer it any time, it eats the Tree or bough round, and so kills. *Since I first wrote this treatise, I have changed my mind concerning the disease called the worm, because I read in the History of the West-Indians, that their Trees are not troubled with the disease called the Worm or Canker, which arises of a raw and evil concocted humor or sap. W. Masse Pliny: by reason the Country is more hot then ours; wherefore I think the best remedy is (not disallowing the former, considering that the Worms may breed by such an humor) was standing, sound lopping, and good dressing.*

Bark-pill'd, you shall find with his remedy, in the eleventh Chapter.

Deadly wounds are, when a man *Archerist* wanting skill, cuts off armes, boughes or branches an inch, or (as I see sometimes) an handfull, or halfe a foot or more from the body: these so cut, cannot cover in any time with sap, and therefore they dye, and dying they perish the hearts, and so the tree becomes hollow, and with such a deadly wound cannot live long.

Wounds.
Remedy.

The remedy is, if you find him before he be perished, cut him close, as in the 11. Chapter: if he be heal'd, cut him close, fill his wound, though never so deep, with mortar well tempered, and so close at the top his wound with a Sear-cloth nailed on that no Ayre nor Rain approach his wound. If he be very old and declining, he will recover: and the hole being closed, his wound within shall not hurt him for many years.

Hurt on your trees are chiefly, Ants, Earwigs, and Caterpillars. Of Ants and Earwigs is said, Chap. 10. *Let there be no swarms of pismire near your tree roots, no nor in your Orchard: turn them over to a frost, and pour in water, and you kill them.*

Remedy.

For Caterpillars, the vigilant Fruiterer shall soon spy their lodging by their web, or the decay of leaves: then sound about them. And being seen, they are easily destroyed with your hand,

Remedy.

or rather (if your trees may spare it) take spring and all: for the red
speckled Bunter fly doth ever put them: being her sperms, among
the tender sprays for better feeding: especially in droughts: and
smell them under your feet. I like nothing of smoke among trees.
Unnaturall heats are nothing good for naturall trees. *This, for
Diseases of particular groves.*

Externall hurts are either things naturall, or artificiall. Natu-
rall things, externally hurting Orchards.

- | | | | |
|------------|---------|-----------|---------------|
| 1 Beasts. | 2 Deer. | 11 Birds. | 1 Bullfinch. |
| 2 Goats. | | | 2 Thrush. |
| 3 Sheep. | | | 3 Black-bird. |
| 4 Hares. | | | 4 Crow. |
| 5 Cony. | | | 5 Pigeon. |
| 6 Catuill. | | | &c. |
| 7 Holes. | | | |

The other things are,

- 1 Wind.
- 2 Cold.
- 3 Frost.
- 4 Weeds.
- 5 Wormes.
- 6 Moles.
- 7 Filth.
- 8 Poysonfull smoke.

Externall willfull hurters are,

- 1 Walls.
- 2 Trenches.
- 3 Other works noisome, close in or near your Or-
chard.
- 4 Evil Neighbours.
- 5 A careless Master.
- 6 An undifferent, negligent, or no keeper.

See you here an whole Army of mischiefes binded in troops
against the most fruitfull trees the earth beares: assailing your
good labours. Good things have most enemies.

Remedy.

A skillfull Fruiterer must put to his helping hand, and disband
and put them to flight.

Done, &c.

For the full rank of beasts, besides your owne strong forces, you
must have a tall and swift Grey hound, a Stone bow, Gun, and

If need require, an Apple with an hook for a Deer, and an芒
 pine for an Hare.

Your Cherries, and other Berries, when they be ripe, will draw Birds.
 all the Black-birds, Thrushes, and Mig-pier, to your Orchard.
 The Bill-flock is a devourer of your fruit in the bud. I have had
 whole Trees shal'd out with them in Winter time.

The best remedy heretofore is a Stone-Bow, a Piece, especially if you
 have a musket, or sparrow-hawke in winter to make the Black-
 bird sloop into a bush or hedge.

The Gardiner must cleanse his soile of all other trees, but fruit
 trees, as aforesaid, chap. 2. for which it is ordained; and I would
 especially Nithe Oaks, Elms, Ashes, and such other great wood,
 but that I doubt it should be taken as an admission of lesser trees,
 for I admit of nothing to grow in my Orchard but fruit and
 flowers: If sap can hardly be good to feed our fruit trees, should
 we allow of any other? especially those that will become their
 Masters, and wrong them in their lively-hood.

And although we admit without the fence of wall-nuts in most Winds.
 plain places, Trees middle most, and Ashes or Oaks, or Elms in
 most, set in comely rows equally distant, with fair Allyes twix
 row and row, to avoid the boisterous blasts of winds, and within
 them also others for bees, yet we admit none of these into your
 Orchard plot: other remedies then this have we none against the Frosts.
 nipping frost.

Weeds in fertile soil, (because the generall course is so) till Weeds.
 your trees grow great, will be noisome, and deform your allies,
 walks, beds, and squares; your under gardeners must labour to
 keep all cleanly and handsome from them, and all other filth,
 with a spade, weeding knives, rake with Iron teeth, a scruple of I-
 ron thus formed.

For Nettles, and ground Ivy after a shower.

When weeds, straw, sticks, and all other scrapings are gathered
 together, burn them not, but bury them under your crust in any
 place of your Orchard, and they will dye and fatten your ground.

Wormes.
Moles.

Wormes and Moles open the earth, and let in ayre to the Roots of your trees, and deform your squares and walks; and feeding in the earth, being in number infinite, draw out hawthornes.

Remedy.

Wormes may easily be destroyed. Any Summer evening when it is dark, after a showre with a candle you may fill bushels, but you must tread nimble, and where you cannot come to catch them, so binde the earth with coal, altho an inch or two thicknesse, and that is a plague to them, so is sharp gravell.

Moles will anger you, if your Gardener or some other moulcatcher ease you not; especially, having made their fortresses among the Roots of your Trees; you must watch her well with a Moal speare, at morning, noon, and night: when you see her utmost hill, cast a trench betwixt her and her home, for she hath a principall mansion to dwell and breed in about April, which you may discern by a princ pall hill, wherein you may catch her, if you trench it round and sure, and watch well, or wheresoever you can discern a single passage, (for such she hath) there trench, and watch, and have her.

Willfull annoyances must be prevented and avoided by the love of the Master and Fruiterer, which they bear to their Orchard.

Justice and liberality will put away evill neighbours, or evill neighbour-hood. And then, (if God bleffe and give successe to your labours) I see not what hurt your Orchard can sustain.

CHAP. XIUI.

The age of Trees.

IT is to be considered, All this treatise of trees tends to this end, that men may love and plant Orchards, wherunto there cannot be a better inducement then that they know, (or at least be perswaded) that all the benefit they shall reap thereby, whether of pleasure or profit, shall not be for a day, or a month, or one, or many, but many hundred years. Of good things, the greatest, and most durable, is alwayes the best. If therefore, out of reason grounded upon experience, it be made, (I think) manifest, but I am sure probable, that a fruit tree in such a soyle
and

and sit, as is described, so planted and trimmed, and kept as is afore appointed, and duly soiled, (shall dure a thousand years, why should we not take pains; and bear two or three years charge, The age of trees. (for under seven years will an Orchard be perfected for the first planting, and in that time be brought to fruit) to reap such a commodity, and so long lasting?

Let no man think this to be strange, but peruse and consider the reason. I have Apple trees standing in my little Orchard, which I have known these forty years, whose age before my time I cannot learn, it is beyond memory, though I have inquired of divers aged men of 80 years and upwards: these trees although come into my possession very ill ordered, and mishappen, and one of them wounded to his heart, and that deadly, (for I know it will be his death) with a wound, wherein I might have put my foot into the heart of his bulke, (now it is less) notwithstanding, with that small regard they have had since, they so like, that I assure my selfe they are not come to their growth by more then two parts of three, which I discern not onely by their own growth, but also by comparing them with the bulke of other trees. And I find them short (at least) by so many parts in bignesse, although I know those other fruit trees to have been much hindred in their stature by evill guiding. Here hence I gather thus.

If my trees be a hundred years old, and yet want two hundred of their growth before they leave increasing, which make age. Parts of a trees three hundred, then must we needs resolve, that this three hundred years are but the third part of a trees life: because, (as all things living besides) so trees must have allowed them for their increase one third, another third for their stand, and a third part of time also for their decay. All which time of a tree amounts to nine hundred years; three hundred for increase, three hundred for his stand, whereof we have the terme [stature] and three hundred for his decay: and yet I think, (for we must conjecture by comparing, because no one man liveth to see the full age of trees) I am within the compasse of his age, supposing alwaies the fore-said means of preserving his life. Consider the age of other living Creatures. The Horse, and moiled Oxe, wrought to an untimely death, yet double the time of their increase.

crease. And so likewise increaseth three, stands three at least, and in as many (or rather more) degrees. *Every living thing bestowes the least part of his age in his growth, and so must it needs be with man.* A man cannot not to his full growth and strength (by common estimation) before thirty years, and some slender and lean bodies, not till forty: so long also stands his strength; and so long also must he be allowed by course of nature to decay. Ever supposing that he be well kept with necessities, and from and without strains, bruises, and all other diminishing diseases. I will not say upon true report, that Physick holds it possible; that a clean body kept by these three Doctors, *Diet, Dyas, Quies* and *Dolus Merryman*, may live near a hundred years. Neither will I there urge the long years of *Metuselah*, and those men of that time because you will say, Many dayes are shortened since the flood. But what hath shortened them? God for mans sins; but, by mans: as want of knowledge, evill Government, Riot, Glorony, Drunkenness, and (to be short) the increase of the curse, our sins increasing in an Iron and wicked age.

Now if a man, whose body is nothing (in a manner) but tender costenness, whose course of life cannot by any means, by Counsell, restraint of Lawes or punishment; nor hope of praise, profit, or eternall glory, be kept within any bounds, who is degenerate clean from his naturall feeding, to eliminate cleanness, and cloying his body with excess of meat, drink, sleep, &c. and to whom nothing is so pleasant, and so much desired, as the cause of his own death, as idleness, lust, &c. may live to that age: I see not but a tree of a solid substance; nor diminished by heat or cold, capable of, and subject to any kind of ordering or dressing, that a man shall apply unto him: feeding naturally, as from the beginning; disburdened of all superfluities, eased of, and of his owne accord avoiding; the causes that may annoy him, should double the life of a man, more then twice told: and yet naturall Philosophy, and the universall consent of all Histories tell us, that many other living creatures far exceed man in length of years: As the Hart, and the Raven. Thus reporteth that famous *Roisard* out of *Hesiodus*; and many other Historiographers. The testimony of *Cicero* in his book *De Senectute*, is weighty to

this purpose: that we must asseſſe as ſtate ſtreſſes & ſweats, which
 they have none other ſiſſe: but, that our fruit trees whereof he
 ſpeaks, can endure for many ages.

What elſe are trees, in compariſon with the earth, but as hairs
 to the body of a man? And it is certain, without poiſoning,
 evill and diſtemperate dyet, and uſage, or other ſuch forcible
 cauſe, the hairs dure with the body. That they be called excre-
 ments, it is by reaſon of their ſuperfluous growth: (for cut them
 as often as you liſt, and they will ſtill come to their naturall
 length.) Not in reſpect of their ſubſtance, and nature. Hairs en-
 dure long, and are an ornament, and of uſe alſo to the body, as
 trees to the earth.

So that I reſolve upon good reaſon, that fruit trees well or-
 dered, may live and like a thouſand years, and bear fruit; and
 the longer, the more, the greater, and the better, becauſe his
 rigour is proud and ſtronger, when his years are many. You ſhall
 ſee old trees put forth their buds and bloſſoms both ſooner and
 more plentiful then young trees, by much. And I ſenſibly per-
 ceive my young trees to enlarge their fruit as they grow greater,
 both for number and greatneſſe. Young Heifers bring forth
 Calves ſo ſmall, neither are they ſo plentiful to milke, in
 when they become to be old Kine. No good Houſe-wife will
 breed of a young, but of an old breed-mother: It is ſo in all things
 naturally, therefore in trees.

And if fruit trees laſt to this age, how many ages is it to be ſuppoſed, ſtrong, and huge timber trees will laſt? The age of
 whoſe huge Timber trees
 bodies require the years of divers *Alm* before they end
 their dayes, whoſe ſap is ſtrong and bitter, whoſe bark is hard
 and thick, and their ſubſtance ſolid and ſiſſe: all which, are the
 ſigns of health and long life. Their ſtrength withſtand all for-
 cible winds, their ſap of that quality is not ſubject to worms
 and chiting. Their bark receives ſeldome or never by caſualty,
 any wound. And not only ſo, but he is free from removals, which
 are the death of millions of trees, whereas the fruit-tree in
 compariſon, is little and often blown down, his ſap ſweeter, ſiſſy,
 and ſoon taintred, his bark tender, and ſoon wounded, and him-
 ſelfe ſeized by man, as man uſeth himſelfe, that is, either unskillfully
 or careleſſly.

Age of trees
discerned.

It is good for some purposes, to regard the age of your fruit trees, which you may easily know till they come to accomplish twenty years, by his knots: Reckon from his Root upward an arme, and so to his top twig, and every years growth is distinguished from other by a knot, except lopping or removing do hinder.

CHAP. XV.

Of gathering and keeping Fruit.

Generall rule.

Although it be an easie matter, when God shall send it, to gather and keep fruit, yet are there certaine things worthy your regard. You must gather your fruit when it is Ripe, and not before, else will it wither, and be tough and sowre. All fruits generally are Ripe, when they begin to fall. For trees doe as all other beares doe, when their young ones are Ripe, they will wain them. The Dove her Pigeons, The Coney her Peabens, and Women their Children. Some fruit-trees sometimes getting a raine in the setting with a frost or evil wind, will cast his fruits untimely, but not before he leave giving them sap, or they leave growing. Except from this fore-said rule, Cherries, Damsons, and Bullies. The Cherry is Ripe when he is swelled wholly Red, and sweet: Damsons and bullies not before the first frost.

Apples.

Apples are known to be Ripe, partly by their colour growing towards a yellow, except the Leather-coate, and some Peares, and greenings.

When.

Timely Summer fruit will be ready, some at Midsummer, most at Lammas for present use; but generally no keeping fruit before Michaelmas, Hard winter fruit, and Wardens longer.

Gather at the full of the Moon, for keeping, gather dry for fear of Rotting.

Dry stalks.

Gather the stalks withall: for a little wound in fruits is deadly, but not the stump, that must bear the next fruit; nor leaves, for moisture putrefies.

Severally.

Gather every kind severally by it self, for all will not keep alike, and it is hard to discern them, when they are mingled.

Over-laden
trees.

If your trees be over-laden, (as they will be, being over-rod) as is before taught) I like better of pulling some off, (the lgh they be

be not ripe) near the top end of the bough, than of propping by
much the rest shall be better let Propping out the boughs in d-
ing and how it is done. *Instructions.*
A Long Ladder of light Six, or seven Ladders in
the clearest Chapter. A gathering-crook like a hook before
you, made of purple, or a Waller hung on a bough, or a bal-
ket with a fine bottoms or skin bottoms, with lathes or splinters
under, hung in a rope to pull up and down I think none. Every
bush is to fruit, each if you do it when properly, but hook to
pull boughs to you is necessary break no boughs. *lb1 bca 133 07*

For keeping, lay them in a dry loft, the boughs keeping Apples *Keeping.*
first and sunnest on dry straw, on brags, ten or fourteen dayes,
thick, that they may sweat. Then dry them with a soft and clean
cloth, and lay them thin abroad. Long keeping fruit would be
turned nice in a month (only) but not in, nor immediately after
frost. In a loft, cover'd well with straw, but rather with chaff or
bran if frost doth cause tender rottenness. *Don How 122 03*

CHAP. XVI

Of Pruning.

NOW pause with your selfe, and view the end of all your La-
bours in an Orchard: unspokeable pleasure, and infinite
commodity. The pleasure of an Orchard I refer to the last Chap-
ter, for the conclusion: and in this Chapter, a word or two of the
profit, which sheweth why to decline is not my skill: & I account it
as if a man should attempt to ride horse to the sea with a can-
dle, or number the stars. No man that hath bin a mean Or-
chard or judgment but knowes, that the commodity of an Or-
chard is great: Neither would I speak of this, being a thing so
manifest to all but that I see, that through the carelesse of men,
it is a thing generally neglected. Now let them know, that they
lose hereby the chiefest good which belongs to house-keeping.

Compare the Commodity that cometh of half an acre of
ground, set with fruit-trees and bushes, so as is prescribed, and
an whole acre, (say it be two) with corn, or the best commodity
you can with, and the Orchard shall exceed by divers degrees.

In France and some other Countrey, and in England, they Cyder and
make great use of Cider and Perry, thus made: cutle every Perry
apple, the halfe, in quarters, and all galls away, stamp them, and

fruit, and which every one may see them in
 their faces, and in their eyes, for fear of evil, and which they
 will readily take, and if you have a small amount of
 fruit, and which every one may see them in
 their faces, and in their eyes, for fear of evil, and which they
 will readily take, and if you have a small amount of

fruit, and which every one may see them in
 their faces, and in their eyes, for fear of evil, and which they
 will readily take, and if you have a small amount of

Fruit.

Water.

Conferences.

fruit, and which every one may see them in
 their faces, and in their eyes, for fear of evil, and which they
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fruit, and which every one may see them in
 their faces, and in their eyes, for fear of evil, and which they
 will readily take, and if you have a small amount of

Delight the
 child end of
 Gardens.

An Orchard
 with a house.

image.

Image in a perfect state, and would have him as expecting himself in authority, tranquillity, and splendour on earth, he places him in Paradise. What does it look like? An Orchard in Paradise, full of pleasure, and nothing there but delights. The gods of the earth resembling the great God of heaven in authority, Majesty, and abundance of all things, wherein is their most delight, and whether they withdraw themselves from the troublesome affairs of their state, being tired with the hearing and judging of tedious controversies, chok'd (as it were) with the noise and of their sumptuous buildings, their stomachs cloy'd with varieties of Banquets, their ears fill'd and over-burthen'd with various discourses, whether they encounter Ornaments made and prepared, deck'd and destined for that purpose, to relax and refresh their senses, and to call home their over-wearied spirits. Nay, it is no doubt a comfort to them, to let open their castles into a most delicate Garden and Orchard, whereby they may not only let their senses, when they are too much delighted, but also to give them, sweet and pleasant air to their Galleries and Chambers.

And look what these men do by reason of their greatness and wealth, provided with delight, the same dooble would every one of us do, if power were amenable to our desires, whereby we see manifestly, that of all other delights on earth, they that are rich by Orchar'd are most content, and most in love with them.

For whereas every other pleasure comes only to please one of our senses, and that only with delight, this makes all our senses all the while, twin in pleasure, and that with infinite variety, joined with the most commodious.

That famous philosopher, and mathematician Orontius, who has prescribed nothing more fit, to take away the bitterness of three or four hundred years than the pleasure of an Orchard.

What can you expect to be, your state to be, your mind to be, or your nose to smell, that you are not in an Orchard, with abundance of variety? What more delightful than an infinite variety of sweet smelling flowers, with sundry colours, the green mantle of the earth, the universal

An Orchard in Paradise.

Cause of wearisomeness.

Interpretation
Orchard is the remedy.

All delights in an Orchard.

Delightful old age.

Cause of delight in any Orchard.

mother of walls, so by them beforted, so dyed, that all the World cannot blame them, and wherein it is more fit to praise the Dyers, than the dyers, for working up, coloring not only the cloth, but looking the dye, and increasing every branch and foliage. His first thing to show art.

Flowers.

The Ruseed, Damask, Velvet, and double double Province Rose, the sweet most Rose double and single, the double and single white Rose, the last are three kinds of Woodbine, double and single, and double double, Purple Cowslip, and double Cowslip, and double double Cowslip; Primrose double and single. The Violet nothing behind the best, for smelling sweetly. A thousand more will provide your pleasure.

Borders and squares.

Surround these by the skill of your Orchard, to comely and orderly, and to make borders and squares, and to intermeddle, that one looking thereon cannot but wonder, to see what nature cometh by Art, and so.

Mounts.

When you behold in direct comers of your Orchard Mounts of flowers, which comely groweth within and without, or of earth raised with trees new, & such Cherries, Damasks, Plums, &c. with statues of precious Workmanship; and in some corner (as there's a tree) Dialle Clock, and some Andrickwork; and especially fives (standing) fountains, with instruments, and vessels, gracing all the hill: How will you be won with De-

Walks.

light, and so forth, do you shall also be to see, what a fine walk will be made, from one end of the Orchard, to the other, through groves in the way, raised with gravell and sand, having fountains and statues, and other things, which delight the mind, and please the eye.

Stair.

View now, with delight, the works of your own hands, your fruit trees of all sort, raised with fountains, and fountains of all sort, and so forth, do you shall also be to see, what a fine walk will be made, from one end of the Orchard, to the other, through groves in the way, raised with gravell and sand, having fountains and statues, and other things, which delight the mind, and please the eye.

Order of trees.

Your borders of every kind, keeping and mowing with Fe-
derals, and so forth, do you shall also be to see, what a fine walk will be made, from one end of the Orchard, to the other, through groves in the way, raised with gravell and sand, having fountains and statues, and other things, which delight the mind, and please the eye.

Shrubbery and bark.

And so forth, do you shall also be to see, what a fine walk will be made, from one end of the Orchard, to the other, through groves in the way, raised with gravell and sand, having fountains and statues, and other things, which delight the mind, and please the eye.

Hounds to chase the Deer, or hunt the Hare. This kind of hussling shall not waste your corn, nor much, your cows.

Maze well framed a mans height, may perhaps make your friend wander in gathering of berries till he cannot recover himself without your help.

To have occasion to exercise within your Orchard, it shall be a pleasure to have a bowling Alley, or rather (which is more manly, and more healthfull) a pair of Rusts, to stretch your Butts.

Rosemary and sweet Eglantine are fitly Ornaments about a Heabes Door or Window, and so is Woodbine.

Look Chap 15. and you shall see the form of a Gondie. If there were two or more, it were not amiss.

And in mine own opinion I could highly commend your Orchard, if either through it, or hard by it, there should run a pleasant River with silver streams: you might sit in your Moone River, and Angle a peckled Trout, sleighty Eel, or some other dainty Fish. Or moan, whereon you may row with a Boat, and fish with Moan.

Store of Bees in a dry and warm Bee house, somely made of Bees, fit boards to sing, and fit, and feed upon your flowers, and spoons, make a pleasant noise and sight. For cleanly and innocent Bees, of all other things, love and become, and thrive in an Orchard. If they thrive (as they must needs, if your Gardener be skilfull, and love them: for they love their friends, and hate none but their enemies) they will besides the pleasure, yield great profit to pay him his wages. Yea, the increase of twenty Stocks or Stools with other fees, will keep your Orchard.

You need not doubt their stings, for they hurt not whom they know, and they know their Keeper and acquaintance. If you like not to come among them, you need not doubt them: for but hear their store, and in their own defence, they will not fight, and in that case only (and who can blame them?) they are manly, and fight desperately. Some (as that honourable lady at Hacknes, Whose name doth much grace mine Orchard) use to make seats for them in the stone walls of their Orchard, or Garden, which is good, but wood is better.

A Vine over-shadowing a seat, is very comely, though her Grapes Vine, with us ripen slowly.

One

Birds.
Nightingale.

One chief grace that adorns an Orchard, I cannot let slip :
a brood of Nightingales, who with several notes and tunes,
with a strong, but sweet voice out of a weak body, will please
you company night and day. She loves (and lives in) hots of
woods in her heart. She will help you to cleanse your trees of
Caterpillars, and all noysome worms and flies. The gentle
Robin-red-breast will help her, and in winter in the coldest storms
will keep a part. Neither will the silly Wren be behind in Sum-
mer, with her distinct whistle, (like a sweet Recorder) to cheer
your spirit.

Black-bird.
Thrush.

The Black-bird and Thrush (for I take it, the Thrush sings
not so devout) sing loudly in a May morning and delight the
care much, and you need not want their company, if you have
the Black-bird or Thrush, and would as gladly as the rest do
your pleasure : but I had rather want their company than my
fruit.

What shall I say ? A thousand of pleasant delights are attend-
ing an Orchard : and toover shall I be weary, than I can reckon
the least part of that pleasure which one that hath, and loves an
Orchard may find there.

What is there of all these few that I have reckoned, which doth
not please the eye, the ear, the smell, and taste ? And by these
last, as Open Pipes and windows, these delights are carried to
refresh the gentle generous and noble mind.

Your own
labour.

To conclude, what joy may you have, that you living to
such an age, that for the blessing of God on your labour while
you live, and leave behind you to heirs, or successors (for God
will make heirs) such a work, that many ages after your death,
shall record your love to their Country ? And the rather, when
you consider (Chap. 14.) to what length of time your work is to
live.

FINIS.

THE
COUNTRY HOUSE-WIVES
GARDEN,

Containing rules for Herbs, and Seeds,
of common use, with their times and seasons
when to set and sow them.

Together

With the Husbandry of Bees, publi-
shed with secrets very necessary for every House-
wife: As also divers new Knots for Gardens.

The Contents see at large, in the last Page.

Genes. 2. 29.

*I have given unto you every Herbe, and every Tree, that shall be to you
for meat,*



LONDON,

Printed by William Wilson, for George
Sambridge, at the Bible on Ludgate-hill,
near Fleet-bridge. 1660.

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of common use with their times and seasons
when to set and sow them.

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Printed by William Wilson for George
Sandwich at the Black Lion in Ludgate-street
near the Bishop's Palace.



THE COUNTRY HOUSEWIVES GARDEN.

CHAP. I.

The Soyle.



He Soyl of an Orchard and Garden, differ only in these three poynts: First, the Garden soyl would be somewhat dryer, because he be being more tender then trees, can neither abide moysture nor drought, in such excessive measure, as trees; and therefore having a dryer soyl, the remedy is easie against drought: If need be, water soundly;

Dry.

which may be done with small labour, the compasse of a Garden being nothing so great, as of an Orchard; and this is the cause (if they know it) that Gardners raise their squares: but if moysture trouble you, I see no remedy without a generall danger, except in Hope, which delight much in a low and sappy earth.

Hope.

Secondly, the soyl of a Garden would be plaine and leuell, at least every square, (for we purpose the square to be the first form) the reason is, the earth of a garden wanting such help, as should stay the water, which an orchard hath, in the roots of herbe being

being mellow and loose, is soon either waſht away, or ſends out his heart to ſome other place, and ſo ſooner withereth.

Thirdly, if a garden be ſet out with ſtraw, and timely of graſſe, the roots ſhall be ſecure, the ſeed ſhall grow, and herbs proſper, which will be ſure to be ſo, if the garden be ſet out with tender ſtraw, for ſuch ſtraw is ſoft, and ſo the roots are by nature, and ſo the ſeed is by nature, and ſo the garden is by nature, and therefore may more eaſily be followed, at the leaſt one half year before, and the ſeed ſhall be ſet after it is ſown. And you ſhall find that clean keeping, both not onely a ſafe danger of gathering weed; but alſo a ſpeciall ornament, and leaues more plentifully ſap for your tender herbs.

CHAP. II

Of the Site.

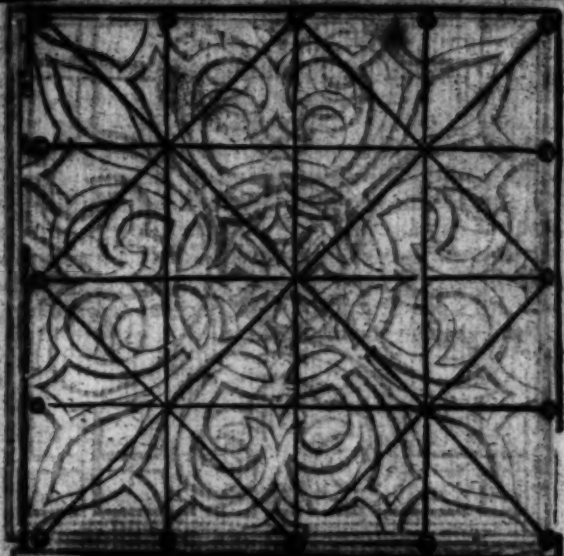
I Cannot ſee in any ſort, how the ſite of the one ſhould not be good, and ſit for the other: The ends of both being one, good, wholeſome, and much fruit joynd with delight, unleſſe trees be more able to abide the nipping froſts than tender herbs: but I am ſure, the flowers of trees are ſoon perſiſhed with cold: as any herbe except Pumpion, and Melon.

CHAP. III

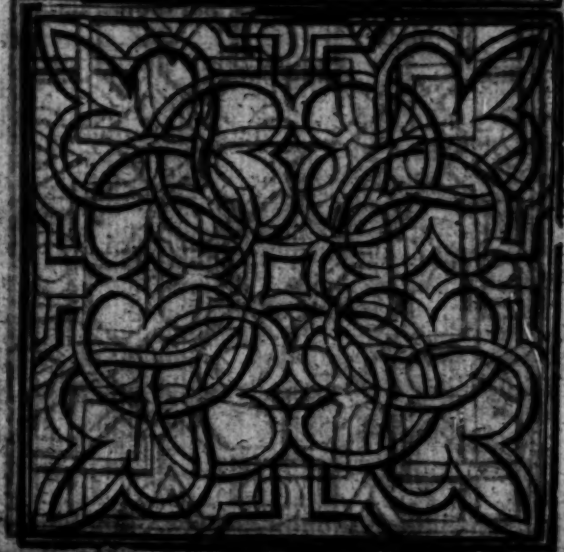
Of the Forme.

Let that which is ſaid in the Orchard, ſerve for the Garden in generall: but for ſpeciall formes, in ſquares, they are as many, as there are devils in Gardners hearts. Neither is the art and art of a ſkilfull Gardener in this point, ſo much recommended: that can work more variety for breeding of more delightſome choiſe, and of all thoſe things, where the owner is able and desirous to be ſatisfied. The number of formes, Mazes, and Knots is ſo great, and men are ſo diversly delighted, that I leave every Reader, who is to be ſatisfied, eſpecially deſiring to ſet down many, had been but to fill much paper: yet let I ſupplie her of all delight and direction, let her view theſe few choiſe new formes, and note this generallly, that all plots are ſquare, and all are bordered about with Privie, Roſes, Peaſhories, Roſes, Thorne, Roſemary, Box-Flower, May, Sage, or ſuch like.

CHAP.



The ground
plan for knots.

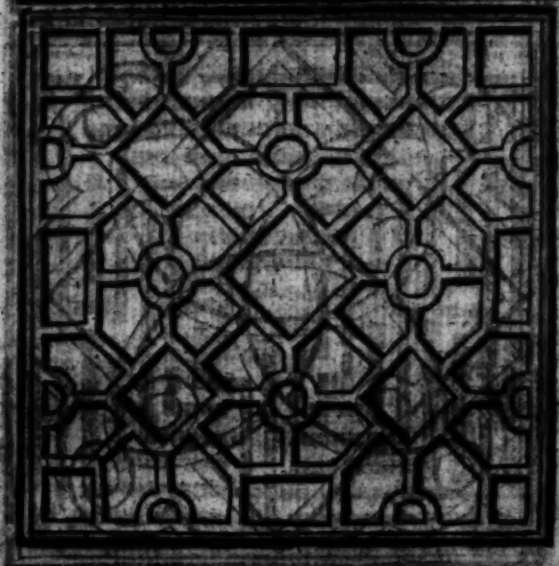


Castle
alge

Flower
deluxe.The Tre-
foyle.



The Bow



Lozenges.

Distemper

GARDEN.

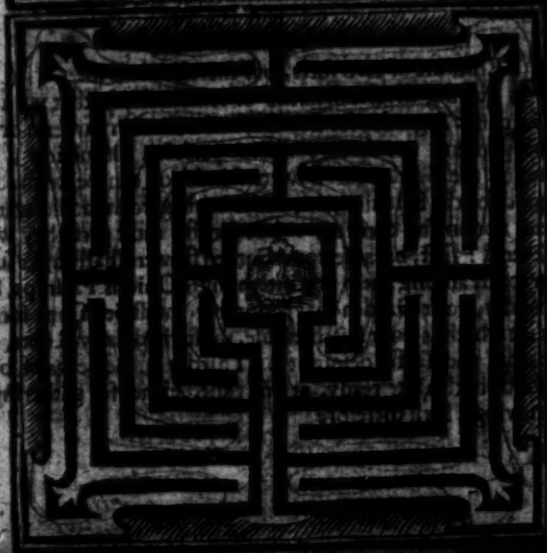


Diamond.





Ovall.



Maze.

CHAP. IV.

Of the Quarry.

A Garden requireth not so large a scope of ground as an Orchard, both in regard of the much weeding, dressing, and removing, and also the pains in a Garden is not so well repayed home, as in an Orchard: It is to be granted, that the Kitchen garden doth yield rich gains, by Berries, Roots, Cabbages, &c. yet these are no way comparable to the fruit of a Rich Orchard: Notwithstanding I am of opinion, that it were better for *England* that we had more Orchards and Gardens, and more large. And therefore, we leave the quantity to every mans ability and will.

CHAP. V.

Of Fences.

Seeing we allow Gardens in Orchard plots, and the benefit of a Garden is much, they both require a strong and shrowding fence. Therefore leaving this, let us come to the Herbs themselves, which shall be the fruit of all these labours.

CHAP. VI.

Of the Gardens.

Herbs are of two sorts, and therefore to be met, (they requiring different manners of Husbandry) that we have two Gardens: A garden for Flowers, and a Kitchen garden: or a Summer garden: not that we mean to perfect a distinction, that we meane the Garden for Flowers should or can be without herbs good for the Kitchen, or the Kitchen garden should want flowers: nor on the contrary: but for the most part they would be severall: first, because your Garden flowers shall suffer some disgrace, if among them you intermingle Onions, Parsnips, &c. Secondly, your Garden that is durable, must be of one sort: but that which is your Kitchen use, must yield daily Roots, or other herbs, and suffer deformity. Thirdly, the herbs of both will not be both always ready, at one time, either for gathering, or removing. First therefore

Of

These herbs and flowers are comely and durable for squares & Knots, and all to be set at *Michael-tide* or somewhat before; that they may be set in, and taken with the ground before winter; though they may be set, especially sown, in the spring. *Roses* of all sorts. (spoken of in the Orchard) must be set. Some use to set slips and twine them, which sometimes, *hats* told dome, thrive all.

Rosemary, Lavender, Bee-flowers, Hop-Sage, Tidd, Camellia, Pyony, Daisies, Clove Gilliflowers, Pinks, Sothemwood, Lillies, of all which hereafter.

Of the Kitchen Garden. **T**hough your Garden for flowers doth in a sort particularly challenge to it self a perfite, and exquisite form to the eyes, yet you may not altogether neglect this, where your herbs for the pot do grow. And therefore some here make comely borders with the herbs aforesaid. The rather, because abundance of *Roses* and *Lavender* yield much profit, and comfort to the senses: *Rose water*, *Lavender*, the one cordiall (as also the *Violets*, *Burage*, and *Bugloss*) the other reviving the spirits by the sense of smelling: both most durable for smell, both in flowers and water: you need not here raise your beds, as in the *Kitchen Garden*, because *Summer* towards, will not let too much wet annoy you, and these herbs require more moisture: yet must you have your beds divided, that you may go betwixt to weed, and some what of form would be expected: To which it availeth that you place your herbs of biggest growth, by walles, or in borders, as *Fennell*, &c. and the lowest in the middle, as *Saffron*, *Scrawberries*, *Onions*, &c.

CHAP. VII.

Division of Herbs.

Garden herbs are Innumerable, yet these are common, and sufficient for our Country-housewives.

Herbs of greatest growth.

Fennell, Angelica, Tanfie, Hollibock, Lovage, Ellicampane, French Mallowses, Lillies, French Poppy, Endive, Succory, and Clary.

Herbs of middle growth.

Burrage, Buglosse, Parsly, Sweet Sicily, Flower-de-luce, Scotch Gilli-flowers, Wall-flowers, Anallfeds, Coriander, Feather-few, Mary-golds, Oenah Chrift, Lingdill, Alexanders, Cardus-benedictus.

Herbs of smallest growth.

Painie, or Hart-cake, Coast-Marjoram, Savory, Straw-berries, Saffina, Lycons, Daffadownillies, Leeks, Onives, Chibbals, Skerous, Onions, Batchelors buttons, Daisies, Penitroyall.

Hiberto, I have only reckoned up, and put in this rank, some Herbs: their Husbandry followes, each in an Alphabetical order, the letter to be found.

CHAP. VII.

Husbandry of Herbs.

Alexanders: are to be renewed as Angelica. It is a timely Pot-herb.

Angelica is renewed with the seed; whereof he beareth plenty the second year, and so yearly. You may remove the roots the first year. The leaves distilled, yield water, sovereign to expell paine from the stomach. The Root dried, taken in the fall, stoppeth the pores against infection.

Anallfeds: make their growth, and bear seeds the first year, and clove in Coriander: it is good for opening the pipes, and it is used in Confee.

Archibolles: are renewed by dividing the Roots into Sets, in March, every third or fourth year. They require a levelled soil, and therefore a severall whole plot by themselves, especially, considering they are plentifulfull of fruit much desired.

Burrage and Buglosse: two Cordials renew themselves by seed yearly, which is hard to be gathered, they are exceeding good Pot-herbs, good for Bees, and most comfortable for the heart and stomach, as Quince and Warden.

Camomile: set roots in banks and walks, it is sweet smelling, qualifying head-ach.

Cabbages : require great room, they feed the second year, sow them in *February*, remove them when the plants are an handfull long, set deep and wet. Look well in drought for the white Catterpillars worm, the spanner under the leaf closely : for every living Creature doth seek food and quiet shelter, and growing quick they draw to, and eat the heart : you may find them in a rainy dewy morning.

It is a good Pot-herbe, and of this herbe called *Cale*, our Country Housewives give their portage their name, and call them *Cale*.

Carduus Benedictus, or blessed thistle : seeds and dyes the first year, the excellent vertue thereof, I refer to Herballs, for we are Gardiners, not Physicians.

Carrots are sown late in *Aprill* or *May*, as Turneps, till they feed the first year, and then their roots are naught : the second year they dye, their roots grow great, and require large room.

Chibbals or Chives, have their roots parted, as Garlick Lillies, &c. and so are they set every third or fourth year : a good pot-herbe, opening, but evill for the eyes.

Clary : is sown, it feeds the second year, and dyes. It is somewhat harsh in taste, a little in portage is good, it strengthneth the reins.

Coast, Root parted, makes Sets in *March* : It bears the second year : it is used in Ale in *May*.

Coriander : is for usage and uses, much like Anniseeds.

Dassidownillies have their roots parted and set once in three or four year or longer time. They flower timely, and after *Autumne* are scarcely seen. They are more for Ornament, then for use, so are *Daisies*.

Daisie roots parted and Set, as *Flower-de-luce* and *Gamomile*, when you see them grow too thick or decay. They be good to keep up, and strengthneth the edges of your borders, as *Pinks*, they be red, white, mixt.

Ellicampare Root is long lasting, as is the *Loveage* : it feeds yearly, you may divide the Root, and set : the Root taken in winter is good, (being dried, powdered, and drunk) to killitches.

Endive and *Siccorie* : are much like in nature, shape, and use, they

they renew themselves by seed, as Fennell, and other herbs. You may remove them before they put forth shanks: a good Pot-herbe.

Fennell is renewed, either by the seeds (which it beareth the second year, and so yearly in great abundance) sown in the fall or Spring; or by dividing one Root into many Sets, as Artichoke. It is long of growth and life. You may remove the root unshankt: It is exceeding good for the eyes; distilled, or any otherwise taken: It is used in dressing Hives for swarms; a very good Pot-herbe, or for Sallets.

Fether-few shakes seed. Good against a shaking Fever, taken in a posset drink falling.

Flower-deluce, long lasting. Divide his roots, and Sets: the roots dried have a sweet smell.

Garlick may be Set an handfull distance, two inches deep, in the edge of your beds. Part the head into severall cloves, and every clove, set in the latter end of *February*, will increase to a great head before *September*: good for opening, evill for eyes: when the blade is long, fast two and two together, the heads will be bigger.

Hollibock riseth high, seedeth and dyeth, the chief use I know is ornament.

Hop is reasonable long lasting: young Roots are good Set, slips better. A good pot-herbe.

July-flowers, commonly called Gilly-flowers, or Clove July-flowers (I call them so, because they flower in *July*) they have the name of Cloves, of their sent. I may well call them the King of flowers except the Rose, & the best sort of them are called Queen-July-flowers. I have of them nine or ten severall colours, and divers of them as big as Roses; of all flowers (save the Damask Rose) they are the most pleasant to sight and smell: they last not past three or four years unremoved. Take the slips (without shanks) and Set any time save in extreame frost, but especially at *Michael-tide*. Their use is much in ornament, and comforting the spirits, by the sense of smelling.

July-flowers of the wall, or wall July-flower, Wall-flowers, or Bee-flowers, or Winter-July-flowers, because growing in the walls even in winter, and good for Bees, will grow even in stone-walls,

walls, they will seem dead in Summer, and yet revive in Winter, they yield seed plentifully, which you may sow at any time, or in any broken earth, especially on the top of a mud-wall, but moist, you may set the root before it be drincht: every slip that is not flower'd will take root, or crop him in Summer, and he will flower in Winter, but his winter seed is untimely. This and Palmes are exceeding good, and timely for Bees.

Leek yield seed the second year, unremoved: and dyes, unlessse you remove them usually to eat with Salt and Bread, as Onions always green, good pot-herb, evill for the eyes.

Lavender-spikes would be removed within seven years, or eight at the most: slips twined, as Hysope and Sage, would take best at *Michael-side*. This flowre is good for Bees, most comfortable for smelling, except Roses: and kept dry, is as strong after a year, as when it is gathered. The water of this is comfortable.

White *Lavender* would be removed sooner.

Letties yields seed the first year, and dyes: sow betime; and if you would have them Cabbage for sallets, remove them as you do Cabbage. They are usuall in Sallets and in the pot.

Lillies white and red, remove once in three or four years, their roots yield many Sets, like the Garlick. *Michael-side* is the best. They grow high, after they get root. These roots are good to break ayle, as are Mallows and Sorrell.

Mallows, French or gagged, the first or second year, seed plentifully. Sow in *March*, or before. They are good for the housewife's pot, or to break a bunch.

Marigolds, most commonly come of seed: you may remove the Plants, when they be two inches long. The double Marigold, bring as bigge as a little Rose, is good for shew. They are a good Pot-herbe.

Oculus Christi, or Christs-eye, seeds, and dyes the first or second year: you may remove the young Plants, but seed is better. One of these seeds put into the eye, within three or four houres will gather a thick skinne, clear the eye, and bolt it selfe forth without hurt to the eye. A good Pot-herbe.

Onions are sown in *February*, they are gathered at *Michael-side*, and all the Summer long, for Sallet; as also young parilly, Sage,

Sage, Chibbals, Lettice, (sweet Sicily, Fennell, &c. good alone, or with meat, or muttons, &c. for sauce especially for the pot.

Parley sow the first year, and use the next year: it seeds plentifully, an herb of much use, as sweet Sicily is. The seed and roots are good against the stone.

Parley require an whole plot, they be plentifull and common, sow them in *February*, the Kings (that is in the middle) seed broader and redder. *Parley* are sustenance for a strong stomack, not good for evill eyes. When they cover the earth, in a drought to tread the tops, makes the roots bigger.

Penny-royal, or pudding grasse, creeps along the ground, like ground Ivy. It lasts long, like daisies, because it puts and spreads daily new roots. Divide, and remove the roots, it hath a pleasant taste and smell, good for the pot, or hack meat, or Haggas pudding.

Pumpions: Set seeds with your finger, a finger deep, late in *March*, and so soon as they appear, every night if you doubt frost, cover them, and water them continually out of a water pot: they be very tender, their fruit is great and waterish.

French Poppy beareth a great flower, and the seed will make you sleep.

Ranunculus is sauce for cloyed stomacks, as Capers, Olives, and Cucumbers: call the seeds all summer long here and there, and you shall have them alwayes young and fresh.

Rosemary, the grace of herbs here in England, in other Countries common. To set slips immediately after *Lambes*, is the surest way. Seed sown may prove well, so they be sown in hot weather, somewhat moist, and good earth: for the herb, though great, is weak and tender (as I take it) brought from hot Countries to us in the cold North: set hills, it becomes a window well. The use is much in meats, more in Physick, most for bees.

Rue, or herb of grace, continually green, the slips are set. It lasts long, as *Rosemary*, *Sothernwood*, &c. too strong for mine Housewifes pot, unless she will brew Ale therewith, against the plague: let them not feed if you will have him last.

Saffron, every third year his roots would be removed at *Midsummer*, for when all other herbs grow most, it dyeth. It flourisheth at *Michael-tide*, and groweth all winter: keep his flowers from birth in the morning, and gather the yellow, (for they

they shape much like Lillies) dry, and after dry them: they be precious, expelling diseases from the liver and stomack.

Savory: seeds and dyes the first year, good for my Housewife's pot and pye.

Sage: set slips in May, and they grow aye; let it not seed, it will last the longer. The use is much and common. The most profitable is to make a decoction of it in wine, and drink it.

Car moritur homo, car salubris profectus in vitam non solum

Spinnas: the Rooks are set when they be placed in *Pinks*, and Flower-deuce at *Michastiside*, the Rook is but small and very sweet, I know none other speciall use but the Table.

Sweet Sinsy: long lasting, pleasantly tasting, either the seed sown, or the root parted, and renewed, makes increase. It is of like use with parsley.

Strawberries: long lasting, set Roots at *Michastiside*, from the Spring, they be red, white, and green, and ripe, when they be great and soft, some by *Midsummer* with us. The use is: they will cool my Housewife well, if they be put in Wine or Orchard with Sugar.

Time: both seeds, slips, and Roots are good, the seed not; it will last three or four years or more, it smells forth comfortably. It hath much use, namely in all cold meats, it is good for Bees.

Turnep: it sown, in the second year they bear plenty of seed; they require the same time of sowing that Cabbages do; they are sick of the same disease that Cabbages be. The root increaseth much, it is both wholesome, and betwixt the good and well tempered earth. Sovereigne for eyes and bowels.

I reckon these herbes onely, because I teach my Country Housewife, and skillfull Artiste, and it should be an endless labour, and would make the matter tedious. I have not forgot *Shoe, Stock-Gilly-flowers, Charvell, Valerian, Go to bed at noon, Piony, Lycorus, Tansey, Garden mint, Groundsley, Canterbury* and a thousand such Physick herbes. Let her first grow cunning in this, and then she may enlarge her Garden as her skill and will require. And so I bid her the most humble service for down these Observations.

General rules in Gardening.

1. Now for such parts Gardening may be more timely, and more safely done, then with us in *Yorkshire*, because our year is not so favourable, nor our ground so good.

2. Secondly, with such flukes, by turning the good earth, are renewed, their Mother the earth keeping them in her bowels, till the Sun their Father can reach them with his heat.

3. In setting herbs, I have not got more than an handfull above the ground, nor more than a foot under the earth.

4. I wine the roots of those slips you set, if they will abide in Gilly flowers are too tender.

5. Scennist and some dry.

6. Set slips without shanks at any time, except at *Midsummer*, and in frost.

7. Seeding spoiles the most roots, as drawing the heart and sap from the root.

8. Gather for the pot and medicines, herbs tender and green, the sap being in the top, but in Winter the root is best.

9. All the herbs in the Garden for flowers, would once in seven years be renewed, soundly weared with gentle warm except Rosemary.

10. In all your Gardens and Orchards, banes and Scars of Camomile, Peany-royall, Daiesia and Violets, are seemly and comfortable.

11. These require whole pios, Artichokes, Cabbages, Turneps, Parsneps, Onions, Carrots, and (if you will) Buffron and Skervits.

12. Gather all your seeds, dead, ripe, and dry.

13. Lay nothing to the roots of your herbs, as usually they do, for damp stumeked is too late for them.

14. Thin sowing and sowing (for the seed stand not past a foot distance) is profitable, for the herbs will like the better. Greater herbs would have more distance.

15. Set and sow herbs in their time of growth, (except at *Midsummer*

In summer, for then they are too too tender but trees in their time of full.

16 A good Housewife may, and will gather store of herbs for the pox, about Lammias, and dry them, and pound them, and in winter they will do good service.

Thus have I summed out a Garden to our Country Housewives, and given them Rules for common herbs. If any of them (as sometimes they are) be knotty, I refer them to Chap. 13. The skill and pain of weeding the Garden with weeding knives of fingers, I refer to them, that want their maids, willing them to take the opportunity after a storm of rain. At last, I advise the Mistress either to be patient her self, or to teach her maids to know herbs from weeds.

CHAP. X.

The Husbandry of Bees.

THere remaineth one necessary thing to be prescribed, which in mine opinion makes as much for ornament, as either flowres, or form, or cleanness, and I am sure as commodious as any of, or all the rest: which is Bees, well ordered. And I will not account her any of my good House-wives, that wanteth either Bees, or skillfulness about them. And though I know some have written well and truly, and others more pleasantly upon this theme: yet somewhat have I learned by experience (being a Bee-master my self) which hitherto I cannot find put into writing, for which I think our House Wives will count themselves beholding unto me.

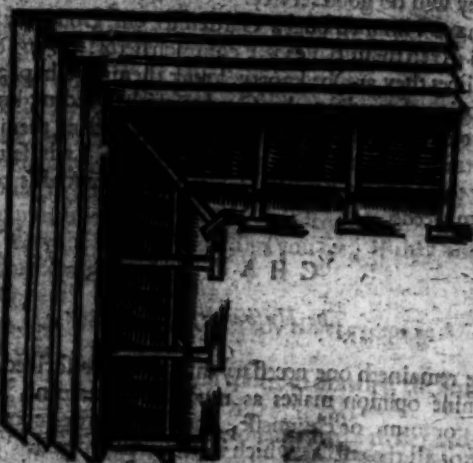
The first thing that a Gardener about Bees must be careful for, is a house, not flukes and fronts abroad, but for flukes rot and reel, Rains and weather ear your hives and covers, and cold most of all is hurtfull for your Bees. Therefore you must have an hock made along a sure dry wall in your Garden, now as in your Orchard: For Bees love flowers and wood with their hives.

Bee-houses.

Of Bees and their hives, I have written much, and will not say more. This

This the form ; a Frame standing on posts with one floor (if you would have it hold more Hives, two floors) boarded, laid on bearnes and back posts covered over with boards, thus with a doore.

Let the floors be without holes or chinks, lest in casting time



the Bees flye out and loyter. But with this new way ever since And though your Hives stand within an handbreadth the one of another yet will Bees know their home.

In this frame may your Bees stand dry and warm, especially if you make doores like doores of windowes to shroud them in winter, as in an house: provided you leave the hive's mouth open. I my self have devised such an house, and I find that it throughly cures my Bees much, and my hives will last six to one.

Hives.

Mr. Merdoun commends hives of wood ; I discommend them not but these hives are in use with us, and I think, with all the world, which I commend for nimbleness, cleanness, warmness, and dryness. Bees love no externall molesse of dashing, or such like. Sometimes occasion shall be offered to lift and move hives, as shall appear hereafter. One light entire hive

hive of straw, in that case, is better then one that is daubed, weighty and cumbersome. I wish every hive, for keeping swarms, to hold three pecks at least by measure, for too little hives procure bees, in casting time, either to lye out, and loyter, or else to cast before they be ripe and strong, and so make weak swarms and untimely: whereas if they have room sufficient, they ripen timely, and casting seasonably, are strong, and free for labour presently. Neither would the hive be too great, for then they loyter, and waste meat and time.

Your Bees delight in wood, for feeding, especially for casting therefore want not an Orchard. A May's swarm is worth a Mare's Foal: if they want wood, they be in danger of flying away. Any time before *Midsummer* is good for casting, and timely before *July* is not evil. I much like Mr. *Mortbawne's* opinion for having a swarm in combs of a dead or forsaken hive, so they be fresh and cleanly. To think that a swarm of your own, or others, will of it self come into any such hive, is a meer conceit, *Experiments Roberto*. His smearing with honey is to no purpose, for the other Bees will eat it up. If your Swarm knit in the top of a tree, as they will, if the wind beat them not so fall down, let the stool or ladder prescribed in the Orchard do you service.

Hiving of Bees.

The less your Spelks are, the less is the wast of your honey, and the more easily will they draw, when you take your Bees. Four Spelks athwart, and one top Spelk are sufficient. The Bees will fast in their combs to the hive. A little Honey is goodly, but if you want, Fennel will serve to rub your hive withall. The Hive being dress'd and ready spelt, rub it and the hole made for their passage. Use no hole in the Hive but a piece of wood board, to save the Hive and keep your bees. Shake in your Bees, or the most of them, for all commonly you may see, the remainder will follow. Many use smoke, which I utterly dislike, for Bees love not to be smoked. Raging is the time of casting, a meer fancy, violent handling of them is simply evil, because bees of all other creatures love cleanliness and quiet. Therefore handle them leisurely and gently, and their swarms when they have may do with them what he will without hurt. Being hived straight, bring them to their feet. Let your hives all of one year together.

Spelks.

Causing

Causing

L2

Signes

which have lost their stings, and so being as it were gelded, become idle and great : there is great use of them. *Dea. & natura ubi facit in ira.* "They hate the bees, and canst thou call the looser they never come forth, but when they be over-heated : they never come home laden. After casting time, and when the bees want meat, "You shall see the labouring Bees fasten on them, "two, three or four at once, as if they were thieves to be led to the Gallows, and killing them, they call them out, and draw them far from home, as hateful members. Our Housewife, if she be the Keeper of her own bees (as she had need to be) may with her bare hand in the heat of the day, lively destroy them in the hive's mouth. Some use towards night, in a hot day, to set before the mouth of the hive a thin board with little holes in it, at which the little Bees may enter, but not the Drones : so that you may kill them at your pleasure.

Annoyances.

Smile spoil them by night like thieves : they come so quietly, and are so fast, that the Bees fear them not : look early and late, especially in a misty or dewy evening or morning.

Mice are no less hurtfull, and the rather to Hives of straw : and therefore covering them with boards, they will in either at the mouth, or shear them selves in hole : The remedy is good Cats, Rats-bane, and Watching.

The cleanly Bee hateth the moor, as paysonth, therefore let your bees stand neerer your Garden, than your Brew-house or Kitchen.

They say Sparrowes and Swallows are enemies to Bees, but I see it not.

More Hives perish by Winter cold, then by all other hurts : for the Bees neither live, "and only lives in warm weather, and dies in cold. And therefore let our Housewife be perswaded, three weeks before they begin to fly, to the children help her canopie her bees against cold, and many more contrivances. Many be afraid cold in Winter to stop up their hive close, and leave sex them in hunger perishing themselves : that the day they release their bees, find them moving, & hurtfull. Secondly in Winter, going knocking & the like annoyances. Thirdly, and much best in an house, is to make a room for them : but lately, and especially here cannot be done, for the Bees are so scarce. For as every one in the face of the Sunne they revive, and living late, and eating much needs purg

But I am in opinion that there are many more ways to know is true.

purge abroad : in her house the cleanly Bee will not purge her self. Judge you what it is for my living, cramm'd not in dis-burden nature. Being thus in the hive, I am subject to the Hive, and you shall hear them yearning out, as many hundred perforce. Therefore improve me with Bees, to profitable and free a creature.

Let none stand above three yeeres, else the combs will be black. Taking of and knotty, your honey will be thin and unwholesome, and if any Bees call after three yeeres it is such as have swarms of old bees kept all together, which is great losse. Smoaking with Rango, Rotten, or Brimstone, many use : some use *decuming* in a tub of cleane water, and the water well brew'd, will be good boteches. Drive out your spelks immediately with a paire of pitchers, lest the Wood grow soft and swell, and so will not be drawn, then must you put your hive.

Let no fire come near your honey, for fire softneth the waxe and droffe, and makes them run with the honey. Fire softneth, weakneth, and hindrath hony from purging. Break your combs small, when the dead empty combs are parted from the loaden combs, into a sieve, both over a great bowl, or vessel with two flaves, and so let it run two or three dayes. The sooner you run it up, the better will it purge. Run your Swarm honey by it self, and that shall be your best. The elder your Hives are, the worse is your honey.

Straining
Honey.

Usuall Vessells are of Clay, but after wood be satiated with Vessels, Honey (for it will leak at first : for honey is marvelously searhing though thick, and therefore vertuous) I use it rather, because it will not break so soon with falls, frosts, or otherwise, and greater vessels of clay will hardly last.

When you use your Honey, with a spoon take off the skin which it hath put up.

And it is worth the regard, that bees thus used, if you have but forty flocks, shall yield you more commodity clearly than forty Acres of Ground.

And thus much may suffice, to make good Housewives love and have good Gardens and Bees.

Des Jours.

F I N I S.

The



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Will V. the of Clay, the afterwood be fainted by which
 Hony for a while at first for hony is manfully feeding
 through hony, and the hony (which is the hony) will
 will not break to the hony, for the hony is the hony
 when you are hony, with a spoon take off the hony
 And it is worth the hony, the hony is the hony
 And it is worth the hony, the hony is the hony
 And it is worth the hony, the hony is the hony
 And it is worth the hony, the hony is the hony

MOST PROFITABLE

New Treatise, from approved experience

of the Art of Propagating Plants,

BY
SIMON HARWARD.

CHAPTER I.

The Art of Propagating Plants.

Here are four sorts of Planting or Propagating, as in laying of shoots or little branches, which they are set under, in some of hands or their feet, as shall be told hereafter or upon a little ladder or basket of earth tied to the bottom of the branch, or in bearing a Willow branch, and putting the bottom of the one into the hole, it shall be fully told in the

Chapter of Grafting.

There are likewise, fissions to Propagate in; But the last is in

M

the

the spring, and *March*, when the trees are in the flower, and doe begin to grow lively. The young planted *Stems* or little grafts must be prepared in the beginning of *Winter*, a foot deep in the earth, and so to be buried in the earth, which you shall cut down of the pit, when you mean to propagate it, to make it in a manner, as if it were a young tree, and so to be buried in the earth, which you shall cut down of the pit, when you mean to propagate it, as they grow about some small tree, which we mean to propagate, for they will do nothing but rot. For to propagate, you must dig the earth round about the tree, that so your roots may be laid in a manner half bare. Afterwards draw into length the pit on that side where you mean to propagate, and according as you perceive that the roots will be best able to yield, and be governed in the same pit, to use them; and that with all gentleness, and stop close your *Stems*, in such sort, as that the wreath which is in the place where it is grafted, may be a little lower than the *Stem* of the new wood growing out of the earth, even so high as it possible may be. If the trees that you would propagate be somewhat thick, and thereby the harder to ply, and somewhat stiff to lay in the pit? then you may wet the stock almost to the middle, betwixt the root and the wreathing place, so with gentle handling of it, bow down into the pit the wood which the grafts have put forth, and that in as round a compass as you can, keeping you from breaking of it; afterwards lay over the cut with gummed wax, or with gravel and sand.

CHAP. II

Of the best time to plant or propagate trees in the Spring or Summer. The best time to plant or propagate trees is in the Spring, or in the Summer, from the end of *May* until *August*, as being the time, when the trees are young and lively, and full of sap and leaves. To wit, in a hot Country,

country from the midst of *June*, unto the midst of *July*, but in cold countries to the midst of *August*, after some small showres of Raine.

If the Summer be so exceedingly dry, as that some times do withhold thick sap, you must wait the time till it doe return.

Graft from the full of the Moon, untill the end of the old.

You may graft in a cleft, without having regard to Raine, for the sap will keep it off.

You may graft from mid *August*, to the beginning of *November*: Cover dong with straw doth mightily preserve the graft.

It is better to graft in the evening than the morning.

The furniture and tools of a Grafter, are a basket to lay his grafts in, Clay, Gravel, Sand, or strong Earth to cast over the plants cloven, Moss, Woollen cloaths, barks of Wax to joyn to the late things and catch before spoken: and to keep them fast: Oglers to tye againe upon the barks, to keepe them firme and fast, gummed Wax to dress and cover the ends and tops of the grafts newly cut, that so the rain and cold may not hurt them, neither yet the sap rising from below, be constrained to return againe unto the shoot. A little Saw or hand-Saw, to saw off the stock of the plants, a little Knife or Flea-knife to graffe, and to cut and sharpen the grafts, that so the bark may not peel nor be broken, which often cometh to pass when the graft is full of sap. You shall cut the grafts so long, as that it may fill the cleft of the plant, and there withall it must be left thicker on the bark-side, that so it may fill up both the cleft and other incisions, as any need is to be made, which must be always well ground, well burnished without all rust. Two wedges, the one broad for thick trees, the other narrow for less and tender trees, both of them of box or some other hard and smooth wood, or steel, or of very hard bone, that so they may need lesse labour in making them sharpe.

A little hand bill to fix the plants at their liberty, by casting off the ground about the heels of every stock or branch.

CHAPTER III.

Grafting in the Cleft.

The manner of Grafting in a Cleft, to wit the stock being cloven, is proper not only to trees, which are as great as a mans legs or arms, but also to greater. It is true, that being trees cannot easily be cloven, in their stock; that therefore it is expedient to make incision in some one of their branches, and not in the main body, as we are to be practised in great Apple-trees, and great Pear-trees, and as we have already declared heretofore.

To graft in the cleft, you must make choyce of a graft that is full of sap and juice, but it must not be, but cill from after *January* untill *May*: And you must not thus graft in any tree that is already budded, because a great part of the juice and sap would be already communicated on high, and risen to the top, and there dispersed and thinned thinner and thinner, and every twig and twig, and therefore is welcome to the graft.

You must likewise be resolved not to gather your graft the day you graft in, but ten or twelve days before: for otherwise if you graft it new gathered, because a great part of the juice and sap would be already communicated on high, and risen to the top, and there dispersed and thinned thinner and thinner, and every twig and twig, and therefore is welcome to the graft. You must likewise be resolved not to gather your graft the day you graft in, but ten or twelve days before: for otherwise if you graft it new gathered, because a great part of the juice and sap would be already communicated on high, and risen to the top, and there dispersed and thinned thinner and thinner, and every twig and twig, and therefore is welcome to the graft. You must likewise be resolved not to gather your graft the day you graft in, but ten or twelve days before: for otherwise if you graft it new gathered, because a great part of the juice and sap would be already communicated on high, and risen to the top, and there dispersed and thinned thinner and thinner, and every twig and twig, and therefore is welcome to the graft.

When you are minded to graft many grafts into one Cleft, you must see that they be not in the end all alike.

See that the grafts be of one length, or not much differing, and that they have three or four eyes without the Wound upon the Plant is once sawed, and topped of all his
branch.

branches if it have many: then you must leave but two at the root before you come to the cleaving of it: then put to your little Saw, or your Knife, or other edged tool that is very sharp, cleave in quite thorough the middle, in gentle and soft sort: First, trying the flock very sure, that so it may not cleave further than is need: and then put to your wedges into the cleft untill such time as you have set in your grafts, and in cleaving of it, hold the Knife with the one hand, and the tree with the other, to help to keep it from cleaving too far. Afterwards put in your wedge of Box or Bramble, or bone, at the small end: so that you may the better take it out again when you have set in your grafts.

If the flock be cleaved, or the bark loosed too much from the wood: then cleave it down lower, and set your grafts in, and look that their location be fit, and very justly answerable on the cleft, and that the two saps, first, of the plant and graft, be tight and even set one against the other, and so handsomely fitted, as that there may not bee the least appearance of any end or cleft. For if they do not thus join one with another, they will never take one with another, because they cannot work their forming matter, and as it were cartilaginous glue in convenient sort or manner to the gluing of their joyns together. You must likewise beware not to make your cleft overthwart the pitch, but somewhat aside.

The bark of your plant being thicker than that of your graft, you must set the graft so much the more outwardly in the cleft, that so the two saps may in any case be joyned, and sit right the one with the other, but the end of the plant must be somewhat more out than that of the grafts or cleaved side.

To the end that you may not fail of this work of joining, you must principally take heed, not to over-cleave the flocks of your trees. But before you widen the cleft with your wedge, hand and go about the flock with two or three wires, and that with an Oxen, close drawn together, underneath the same place, where you would have your cleft to end, that so your flock cleave not too far, which is a very usual cause of the miscarriage of grafts, in as much as hereby the cleft stands so wide and open, as that it cannot be shut, and so the graft withereth again: but in the next description shall be seen, and howeth our skill is in that

that place which is the cause that the Stock & the Graft are both split. And this falleth out most often in plant trees, and branches of trees. You must be careful to joyne the rinds of your grafts, and plants, that nothing may come open, to the end that the wind, moisture of the Clay or Raine running upon the grafted place, do not get in: when the plant cleaveth very straight, there is not any danger nor hardnesse in slipping downe the graft. If you leave it somewhat uneven or rough in some places, or that the top booke of the one and the other may the better grow, and be glosed together, when your grafts are once well joyned to your plants, draw out your wedges very softly: lest you displace them again: you may leave there with in the cleft some small end of a wedge of green wood, cutting it very close with the head of the Stock: Some cast glue into the cleft, some sugar, and some powdered Wax.

10.

11.

If the Stock of the Plant, whereupon you intend to graffe, be not so thick as your graft, you shall graffe it after the fashion of a Goats foot, make a cleft in the stock of the plant, not direct, but by a, and that smooth and even, not rough: then apply and make fast thereon the graft with all his bark on, and answering to the bark of the Plant. This being done, cover the place with the fat earth and moss of the Woods, tied together with a strong band: stick a pole of Wood by it to keep it stedfast.

CHAP. IV.

Grafting like a Scutcheon.

IN grafting after the manner of a Scutcheon, you shall not vary not differ much from that of the Flute or pipe, save only that the Scutcheon-like graft having oneylet, as the other hath, yet the wood of the tree whereupon the Scutcheon-like graft is grafted hath not any knob, or bud, as the wood whereupon the graft is grafted after the manner of a pipe.

12.

In Summer when the trees are well replenished with sap, and that their new Stem begin to grow somewhat hard, you shall take a shoot at the end of the chief branches of some noble and oldtimed trees: whereof you would faine have some fruit, and cut many of his old boughs or wood, and from thence take a good sylet, the thill and all thereof to make your graft. But when you choose, take the thickest, and grossest, divide the tall in the

the middle before you do any thing else, casting away the least (if it be not a pear plant, &c. for that would have two or three leaves) without removing any more of the said tail: afterwards with the point of a sharp knife cut off the Bark of the said shoot, the pattern of a shield, or the length of a nail.

In which there is only one eyelet higher than the middle, together with the residue of the tail which you left behind: and for the linking up of the said graft in Scutcheon, after that you have cut the bark of the shoot round about, without cutting of the wood within, you must take it gently with your thumb, and in putting it away you must presse upon the wood from which you pull it, that so you may bring the bud and all away together with the Scutcheon: for if you leave it behind with the wood, then were the Scutcheon nothing worth. You shall smile on it if the Scutcheon be nothing worth, if looking within when it is pulled away from the wood of the same suite, you find it to have a hole within, but more manifestly, if the bud do stay behind in the wood, which ought to have been in the Scutcheon.

Thus your Scutcheon being well raised and taken off, hold it a little by the tail betwixt your lips, without wetting of it, even untill you have cut the bark of the tree where you would graft it, and look that it be cut without any wounding of the wood within, after the manner of a crutch, but somewhat longer than the Scutcheon that you have to set in it, and in place cutting the wood within, after you have made incision, you must open it, and make it gape wide on both sides, but in all manner of gentle handling & that with a little Sizers of bone, and separating the wood and the bark a little within, even so much as your Scutcheon is in length and breadth: you must take heed that in doing hereof you do not hurt the bark.

This done, take your Scutcheon by the end, and your tail which you have left remaining, and put into your incision made in your tree, lifting up softly your two sides of the incision with your said Sizers of bone, and cause the said Scutcheon to lye close and be as close as may be, with the wound of the tree, being cut as aforesaid, in waying a line upon the end of your graft, so cut, and let the upper part of your Scutcheon lye also upon the upper end of your incision, or bark of your said tree: afterwards

bind your Scutcheon about with a band of Hemp, as thick as a pen of a quill more or less, according as your tree is small or great, taking the same Hemp in the middle, to the end that either part of it may perform a like service; and dressing and binding of the said Scutcheon into the incision of a tree, and it must not be eyed too straight, for that will keep it from healing, the joining of the one sap to the other being hindered thereby, and neither the Scutcheon nor yet the Hemp must be moist or wet, and the more fully to bind them together, begin at the back side of the tree, right over against the middle of the incision, and from thence come forward to joyn them before, above the eyes and tails of the Scutcheon, crossing your band of hemp, so off as the two ends meet; and from thence returning back againe, come about each eye & likewise underneath the eyes, and thus cast about your band still backward and forward untill the whole cleft of the incision be covered above and below with the said Hemp, the eyes only excepted, and the tails, which must not be covered at all, in case will fall away one part after another, and that shortly after the ingrafting, it to be the Scutcheon will take. Leave your tree and Scutcheons thus bound for the space of one month; and the chiefe, a great deal longer time. Afterward look them over, and if you perceive them to grow together untill then, or at least will cut the Hamps behind them, and leave them uncovered. Cut also your branch two or three fingers above that, to the top way, proper the better; and thus let them remaine till after winter, about the month of *March* and *April*.

18.

If you perceive that the bodde of your Scutcheon doe swell and come forward, then cut off the tree three fingers or thereabouts, above the Scutcheon: for if it be cut off sooner the Scutcheon, at such time as it put forth his first blossome, it would be a meanes ready to hinder the flowing of it, and cause also that it should not thrive and prosper well: after this one year is past, and that the shoot beginneth to be strong, beginning to put forth the second bud and blossome, you must go forward to cut off by a wife the three fingers in the top of the tree which you cut there, when you cut it in the year going before.

End

When

When your shoot shall have put forth a great deal of length, you may sick down there, even hard joynd therunto, little stakes, tying them together very gently and easily; and these shall stay your shoots and prop them up, letting the wind from doing any harm unto them. Thus you may graft white Roses in red, and red in white. Thus you may graft two or three Scutcheons, provided that they be all of one side; for they will not be set equally together in height, because then they would be all starvelings; neither would they be directly one over another; for the lower would stay the rising up of the sap of the Tree, and so those above should consume in penury, and undergo the aforesaid inconvenience. You must note, that the Scutcheon which is gathered from the Slen of a tree whose fruit is sower, must be cut in square form, and not in the plain fashion of a Scutcheon. It is ordinary to grasse the sweet Quince Tree, bastard Peach-tree, Apricock-tree, Jujube tree, sower Cherry-tree, sweet Cherry-tree, and Chestnut-tree, after this fashion, howbeit they may be grafted in the cleft more easily, and more profitably; although divers be of a contrary opinion. as thus. Take the grafts of sweet Quince-tree, and Bastard Peach-trees, of the fairest wood, and best sed that you can find; growing upon the wood of two years old, because the wood is not so firme and solid as the others; and you shall graft them upon small Plum-tree stocks, being of the thickenesse of ones thumb; these you shall cut after the manner of a Goats foot: you shall not goe about to make the cleft of any more sides then one, being about a foot high from the ground; you must open it with your small wedge: and being thus grafted, it will seem to you that it is open but of one side; afterward you shall wrap it up with a little Mosse, putting thereto some gummed Wax, or Clay, and bind it up with Oziers to keep it surer, because the stock is not strong enough it self to hold it, and you shall furnish it every manner of way, as others are dealt withall; this is most profitable.

The time of Grafting.

All Months are good to graft in, (the Month of *October* and *November* onely excepted) But commonly, graft at that time of

the winter, when the sap beginneth to arise.

In a cold Country graft later, in a warme Country earlier.

The best time generally is from the first of *February*, untill the first of *May*.

The grafts must always be gathered, in the old of the Moon.

For grafts choose shoots of a year old, or at the futhermost two years old.

If you must carry grafts far, prick them into a Turnep newly gathered, or lay earth about the ends.

If you set stones of Plummets, Almonds, Nuts, or Peaches, first let them lye a little in the Sun, and then steep them in Milk or Water three or four dayes, before you put them into the earth.

Dry the Kernels of Pippins, and sow them in the end of *November*.

The stone of a Plum-tree must be Set a foot deep, in *November* or *February*.

The Date stone must be Set the great end downwards, two cubits deep in the earth, in a place enriched with dung.

The Peach-stone would be Set presently after the Fruit is eaten, some quantity of the flesh of the Peach remaining about the stone.

If you would have it to be excellent, graft it afterward upon an Almond tree.

The little Stem of Cherry-trees, grown thick with haire, roots, and those also which do grow up from the Roots of the great Cherry-trees, being removed, do grow better and sooner then they which come of stones, but they must be removed and planted, while they are but two or three years old, the branches must be topped.

ALL THESE SEEDS MUST BE SOWN IN THE END OF OCTOBER, OR THE BEGINNING OF NOVEMBER.

A very profitable Invention, for the speedy
Planting of an Orchard of Fruit-
Trees.

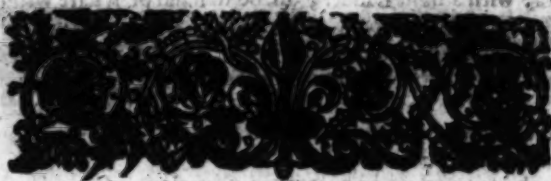
ABout the end (or rather the middle) of *June*, the sap being then in the boughes or Tops of the Trees, let some one of discretion goe up into the boughes of the Tree Intended, and with a keen-knife cut the bark of some smooth bough, so chosen, round about the same, quite through the same bark, to the very bare wood, in two places, (toward the butt of the bough) a full hand breadth the one from the other, and take off the bark clean clearly from the said bough, and cast it away, and wipe the sap off that bared place; Then take some of the stiffest clay you can have, and wrap it hard, round about the said bared place, (that it may stop the sap when it descendeth;) bind on this clay with fallow slings, or the like, very hard; let this clay be two inches thick at least. Then prepare a certain quantity of good ranke mould, tempered with short muck and misken water, and make mortar thereof, and wrap a good quantity of it as big as a foot ball, upon the firme bark remaining close above the said clay, that it may touch the same; put mosse upon it, & as before, bind it well, and so let it continue growing upon the same Tree till *February*. Then with a fine saw carefully (take off the said bough close below the clay, not perishing the upper mortar; and set that bough, with the clay and mortar on it, in some good ground, and there let it remain to grow; for the sap it cannot passe downward for the clay but stayeth in the upper mortar, and breeds roots, and possibly (God willing) may bear fruit the next Summer following. Thus you may order many such boughes as aforesaid, and quickly plant an Orchard of bearing Trees. If the bough be as big as the small of ones leg, it is so much the better: *probatum est.*



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THE



THE
HUSBAND MANS
Fruitfull Orchard.

For the true ordering of all sorts of
Fruits in their due seasons : and how double
increase comes by care in gathering year after
year : as also the best way of carring by land
or by water, with their preservation for
longest continuance.



For all stone Fruit, Cherries are the first to be
gathered : of which though we reckon some
sorts ; *English, Flemmish, Gascoigne, and Black,*
yet are they reduced to two, the early, and the
ordinary ; the early are those whose grafts
came first from *France and Flanders,* and are
now ripe with us in *May* : the ordinary is our
own naturall Cherry, and is not ripe before *June* : they must
be carefully kept from Birds, either with nets, noise, or other
industry.

They

Gathering of
Cherries.

They are not all ripe at once, nor may be gathered at once, therefore with a light Ladder, made to stand of it selfe without hurting the branches, ascende to the Tree, and with a gathering hook, take those which be full ripe, and put them into your Cherry-bowls, or baskets hanging by your side, or upon any bough you please, and be care to break no bough, but that the cherry hangs by, and gather those which be full ripe, and handle them gently.

To carry
Cherries.

For the conveyance or portage of Cherries, they are best to be carried in broad Baskets like sives, with smooth yielding bottoms, only two broad laths going along the bottome: and if you do transport them by ship, or boar, let not the sives be filled to the top, lest setting one upon another, you bruise and hurt the Cherries: if you carry by horse-back, then panniers well lined with Feare, and packe full and close is the best and safest way.

Other stone-
fruit.

Now for the gathering of all other stone fruit, as Nectarines, Apricocks, Peaches, Pearre-Plummes, Damsons, Bullas, and such like, although in their severall kinds, they seem not to be ripe at once on one Tree: yet when any is ready to drop from the Tree, though the other seem hard, yet they may also be gathered, for they have received the full substance the tree can give them; and therefore the day being faire, and the dew drawn away, set up your Ladder, and as you gathered your Cherries so gather them: onely in the bottoms of your large sives, where you put them, you shall lay Nettles, and likewise in the top, for that will ripen those that are most unready.

Gathering of
Peares.

In gathering of Peare are three things observed: to gather for expence, for transportation, or to sell to the Apothecary. If for expence, and your owne use, then gather them as soon as they change, and are as it were half ripe, and no more but those which are changed, leaving the rest hang till they change also: for thus they will ripen kindly, and not so soone as if they were full ripe at the gathering. But if your Peares be to be transported farther by Land or Water, then pull one from the Tree, and cut it in the middlest, and if you find it hollow about the coare, and the kernell a large space to lye in, although no Peare

be ready to drop from the Tree, yet then they may be gathered, and then laying them on a heap one upon another, as of necessity they must be for transportation, they will ripen of themselves, and eat kindly: but gathered before, they will wither, shrink, and eat rough, losing not onely their cast, but beauty.

Now for the manner of gathering, albeit some cline into the Gathering of trees by the boughes, and some by Ladder, yet both is amisse, the best way is with the Ladder before spoken of, which standeth of it self, with a basket and a line, which being full, you must gently let down, and keeping the string still in your hand, being emptied, draw it up again, and so finish your labour, without troubling your self, or hurting the Tree.

Now touching the gathering of Apples, it is to be done according to the ripeness of the fruit; your Summer Apples first, and the Winter after.

For Summer fruit, when it is ripe, some will drop from the Tree, and Birds will be pecking at them: But if you cut out one of the greenest, and find it as was shew'd you before of the Peare: then you may gather them, and in the house they will come to their ripeness and perfection. For your Winter fruits, you shall know the ripeness by the observation before shew'd; but it must be gathered in a fair, Sunny, and dry day, in the waile of the Moone, and no Wind in the East, also after the dew is gone away; for the least wet or moisture will make them subject to rot and mildew; also you must have an apron to gather in, and to empty into the great basket, and a hook to draw the boughes unto you, which you cannot reach with your hands at ease: the apron is to be an Ell every way, loopt up to your girdle, so as it may serve for either hand without any trouble; and when it is full, unloose one of your loopes, and empty it gently into the great basket, for in throwing them down roughly, their owne stalkes may prick them, and those which are prickt will ever rot. Again, you must gather your fruit clean without leaves or bruns, because the one hurts the Tree, for every brunn would be a stalk for fruit to grow upon: the other, hurts the fruit by bruising, and pricking it, as it is laid together, and there is nothing sooner rotten fruit.

fruit : then the green and withered leaves lying among them ; neither must you gather them without any stalk at all : for such fruit will begin to rot where the stalk stood.

To use the fallings.

For such fruit as falleth from the trees, and are not gathered, they must not be laid with the gathered fruit : and of fallings there are two sorts ; one that falls through ripenesse, and they are best, and may be kept to bake or roast : the other windfalls, falling before they are ripe ; and they must be spent as they are gathered ; or else they will wither and come to nothing ; and therefore it is not good by any means to beat down fruit with Poles, or to carry them in carts loose and joggling, or in sacks where they may be bruised.

Carriage of fruit.

When your fruit is gathered, you shall lay them in deep Baskets of Wicker, which shall contain four or six bushels, and so between two men ; carry them to your Apple Loft ; and in shooting, or laying them downe, be very carefull that it be done with all gentlenesse, and leasure, laying every sort of fruit severally by it self ; but if there be want of room, having so many sorts that you cannot lay them severally, then sence such fruit as is nearest in taste and colour, and of Winter fruit, such as will taste alike, may, if need require, be laid together, and in time you may separate them, as shall be shewed hereafter. But if your fruit be gathered far from your Apple-Loft, then must the bottomes of your Baskets be lined with green Fenne, and draw the stubborn ends of the same through the Basket, that none but the last leaf may touch the fruit, and likewise cover the tops of the Baskets with Fenne also, and draw a small cord over it, that the Fenne may not fall away ; nor the fruit scatter out, or joggle up and downe : and thus you may carry fruit by Land or by Water, by Boat, or Cart, as farre as you please ; and this Fenne doth not onely keep them from bruising, but also ripens them, especially Pears. When your fruit is brought to your Apple-Loft, or store-house, if you find them not ripened enough, then lay them in thicker heaps upon Fenne, and cover them with Fenne also ; and when they are near ripe, then uncover them, and make the heap thinner, so as the ayre may passe through them ; and if you will not hasten the ripening of them, then lay them on the boards with-

out any Fenne shall. Now for Winter, or long lasting Peares, they may be packt either in Fenne or Straw, and what you please, but being bound to the fenne with small twigs, and open fenne straw, but beware the fenne be not too thin, nor too close, and too coole, for both are hurtfull. But in a dry place (if land) where they may have aie, but not too much. Gods bee babars.

Wardens are to be gathered, caried, packt, and laid as Winter Peares shall be.

Medlers are to be gathered about Michaelmas, after a frost hath toucht them; at which time they are in their full growth, and will then be dropping from the tree, but never ripe upon the tree. When they are gathered, they must be laid in a basket, sieve, barrell, or any such cask, and wrapt about with woollen cloths, riding over, and on all sides, and also some weight laid upon them, with a board between for when they be brought into a heat, they will be ripe kindly, for this well.

Now when they have lain till you thinke some of them be ripe, the ripest, still as they ripen, must be taken from the rest, therefore powre them one into another sieve or basket, leasely, that so you may well find them that be the ripest, laying the hard ones fall into the other basket, and those which be ripe laid aside the other that be half ripe sever also into a third sieve or basket, for if the ripe and half ripe be kept together, the one will be mouldy, before the other be ripe. And thus do till all be thoroughly ripe.

Quinces should not be laid with other fruit, for the smell is offensive both to other fruit, and to those that keep the fruit or come amongst them; therefore lay them by themselves upon fenne straw, where they may have aie enough, or they must be packt like Medlers, and gathered with Medlers.

Apples must be packt in Wheat or Rye straw, and in mounds or baskets joind with the fenne, and being gently handled, will ripen with such packing and lying together. If severall sorts of apples be packt in one mound or basket, then between every sort lay a weve straw of a pretty thickness.

Apples must not be pressed out, but bruch and well fenned, full, the straw pickt clean from them, and then gently laying upon

Of Wardens.

Of Medlers.

Of Apples.

Of Quinces.

Of Apples.

Of Apples.

Of Apples.

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Of Apples.

take out every several sort, and place them by themselves: but if for want of room you mix the sorts together, then lay them together about half of equal kind; but if they have all one taste, then they need no separation. Apples that are not of the same kind should not be laid together, and if any such be mingled, let it be amended, and those which are first ripe, let them be first spent, and to the end, lay those apples together, that are of one kind of ripening; and thus you must use Pippins also, yet will they be done sooner better than any other fruit, and whilst they are green will heal one another.

As Pippins though they grow of one tree, and in one ground, yet some will be better than other some, and some will be bigger than others of the same kind: according as they have more or less of the Sun's or more or less of the droppings of the trees in upper branches: therefore let every one make most of that fruit which is fairest and longest lasting. Again, the largeness and goodness of fruit consists in the age of the tree: for as the tree increaseth, so do the fruit increaseth in bignesse, beauty, taste, and firmnesse, and in the continuance of it.

If you wish to transport your fruit far by water, then provide some dry barrels or caskels, and pack in your apples, one by one with your hand, that no empty place may be left, to rotation fogging; and you must line your vessel abboth ends with fine force straw, but not the sides, to avoid frost; and you must then have a downy boiler at either end, to receive also much the better, and by no means let them take wet. Some use, that transport by land fear, to shut the fruit under hatches upon straw, but it is not so good, if casks may be gotten into water or drest with the fire. It is not good to transport fruit in March, when the wind blows bitterly, nor in froly weather, neither in the extreme heat of Summer.

36 If the quantity be small you would carry them you may carry them in dollars or pounds provided they may be converted into dollars. Obsolete and Paper be listed with great care, and apply with some fraud and they be at the bottom and even on the side.

...but by neither too hot, nor too cold, nor dry,
nor too open for all are offensive. A low Room or Cells

Difference in
ft. in.

**Transporting
fruit by water.**

Don't to transport fruit

To survey
small bars of
gold.

that is fitter, and either boarded or paved, and not too close, is good, from *Christmas* till *March*; and Rooms that are filled one head, and from the ground are good from *March* till *May*, then the Celler again, from *May* till *Michaelmas*. The apple-loft would be filled or boarded, which if it were, take the finest Rye-straw, and raise it against the walls, to make a fence as high as the fruit lyeth; and let it be no thicker than to keep the fruit from the wall, which being moist, may do hurt, or if not moist, then the dust is offensive.

There are some fruit which will last but untill *Allhallows*: they must be laid by themselves: then those which will last till *Christmas*, by themselves; then those which will last till it be *Candlemas*, by themselves; those that will last till *Shrove-side*, by themselves; and Pippins, Apple-Johns, Pearre-maines, and Winter Russettings, which will last all the yeere by themselves.

Sorting of fruit.

Now if you spye any rotten fruit in your heaps, pick them out, and with a Tray for the purpose, see you turne the heapes over, and leave not a tainted Apple in them, dividing the hardest by themselves, and the broken skinned by themselves to be first spent, and the rotten ones to be cast away; and ever as you turn them, and pick them, under-lay them with fresh straw: thus shall you keepe them for your use, which otherwise would rot suddenly.

Pippins, John Apples, Pearre-maines, and such like long lasting Time of the fruit, need not to be turned till the week before *Christmas*, untill fruit, lesse they be mixt with the other of riper kind, or that the fallings be also with them, or much of the first straw left amongst them: the next time of turning is at *Shrove-side*, and after that once a month till *Whuson-side*; and after that, once a fortnight; and ever in the turning lay your heaps lower and lower, and your straw very thinne: provided you doe none of this labour in any great frost, except it be in a close Celler. At every thaw, all fruit is moist, and then they must not be touched: neither in rainy weather, for then they will be dank also; and therefore at such seasons it is good to set open your windows and doores, that the air may have free passage to dry them, and at nine of the clock in the forenoon in Winter; and at fixe in the forenoone

The 11th bandman's fruitfull Orchard. Book 9

and at eight at night in Summer; only in *March*, open not your
 window at all.

All lasting fruit, after the middle of *May*, begin to wither, be-
 cause then they wax dry, and the moisture gone, which made them
 look plump; they must needs wither, and be small; and nature
 decaying, they must needs rot. Add thus much touching the orde-
 ring of fruits.

Of which, which is the best way to have them
 in the best condition, which will be the best way to have them

Of which, which is the best way to have them
 in the best condition, which will be the best way to have them

Of which, which is the best way to have them
 in the best condition, which will be the best way to have them

PARADISE

Of which, which is the best way to have them
 in the best condition, which will be the best way to have them

Of which, which is the best way to have them
 in the best condition, which will be the best way to have them

